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THIRD ANNUAL CONFERENCE OF SID

Preliminary Program Announcement

TIME: Friday-Saturday 28-29 April 1961

PLACE: The Shoreham Hotel, Washington, D.C.

THEME: Interdependence of Economic and Social Development

Friday morning the 28th: Plenary session at which the speakers will be Felipe Herrera, President of the Inter-American Development Bank; Dr. Abel Wolman, internationally famous public health expert and sanitary engineer, winner of the Lasker award in 1959; and SID retiring President P.S.N. Prasad, of the World Bank.

Friday luncheon: The focus will be on African development, with a speaker to be announced.

Friday afternoon: Three panel discussions will proceed simultaneously—(1) on the interaction of health and economic development, with Stacy May of the Rockefeller Brothers Fund as chairman; (2) on urbanization, with Professor Bert F. Hoselitz of the University of Chicago in the chair; (3) on education and industrialization, led by Professor Samuel P. Hayes of the University of Michigan.

Friday dinner: Speaker and subject to be announced.

Saturday morning the 29th: Three more simultaneous panel discussions—(4) on the role of public water supplies in development, with Professor John A. Logan of Northwestern University in the chair; (5) on the mobilization of youth, with Harlan Cleveland, Assistant Secretary of State for International Affairs, as chairman; (6) on the land-people adjustment, headed by Robert W. Hudgens, President of International Development Services.

Also on Saturday morning, 11:15 to 12:45: The SID annual business meeting, including election of officers and of those Council members whose term expires this year.

Saturday luncheon: Discussion or speaker program to be announced, with Robert R. Nathan of Nathan Associates as chairman.

Saturday afternoon: Summaries of panel discussions by the rapporteurs, 3:45 to 4:30 p.m.

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The Society for International Development welcomes the expression of divergent and even contradictory views in the *International Development Review*, believing that this best serves the needs of its members. The fact that an article appears in the *Review* does not necessarily mean that it represents the views of the Society, nor does the Society accept responsibility for the views expressed in any article, signed or unsigned.

Articles, notices, announcements, news items, and other material submitted to the *International Development Review* should be typewritten, double spaced, and addressed to the Editor. Return postage (U. S. stamps) should be included if the material is to be returned and if it was mailed with U. S. postage originally. The *Review* is not yet financially able to pay for articles or other material. Because of staff limitations, it would be advisable to write the Editor in advance before submitting an article, to determine whether the *Review* would be interested in seeing it.

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Editorial Asides

The Society Is Now Tax Exempt

THE UNITED STATES INTERNAL REVENUE SERVICE has given us its decision, dated 31 January 1961, that SID is exempt from Federal income tax as an educational and charitable organization. The Revenue Service has also decided that contributions made to SID are deductible by donors in their income tax returns. Bequests, legacies, devises, transfers, or gifts to or for the Society are likewise deductible for Federal estate and gift tax purposes. The Society has also been held to be exempt from the tax imposed under the Federal Unemployment Tax Act.

We have been waiting for this decision eagerly for some time. Now we have it. All foundations, and all persons of good will and reasonable means, please note!

Prayer for a Pilot

A FEW DAYS BEFORE John F. Kennedy's tenth birthday in May 1927 a young man named Charles A. Lindbergh piloted a single-engine plane in a solo flight across 3000 miles of the Atlantic Ocean in 33½ hours, inaugurating what was to prove a new era in communication among peoples. Not long afterwards we spent a day with Lindbergh (our introduction to flying was in a little open-cockpit plane he was trying out that day) and witnessed at first hand the overwhelming popular enthusiasm his achievement ignited.

Mr. Kennedy's flight from the U.S. Senate to the White House was certainly not less difficult or less skilfully managed. Watching his inauguration on television and reading the subsequent newspaper comment, we were vividly reminded of the high excitement of those earlier days. It was partly as symbols of youth and courage that both men fired the public imagination; partly too it was admiration for the physical and mental discipline, the grueling preparation, the superb technical mastery, the sure touch characteristic of each achievement.

The air-mastery represented by Lindbergh was among the forces that have sowed the wind in our generation. We now have the whirlwind to reap; and Mr. Kennedy is the one chosen by his countrymen to fly into the eye of the tempest. All men of good will everywhere pray that he will pilot the Ship of State (a hackneyed metaphor except that we refer to a supersonic jet, not a leisurely four-master) with a steady, sure hand. More than ever before in history the world needs a fresh breakthrough to another new era in communication among peoples. It is the chief ingredient we lack for initiating a new era in civilization.

We here reproduce the text of Mr. Kennedy's inaugural address for several reasons—because it is so noble and historically significant a statement; because it is so basically consonant with the ideas and ideals that engendered the Society for International Development; because we like to savor the flavor of words meticulously chosen and skilfully assembled.

President Kennedy's Inaugural Address

"WE OBSERVE TODAY not a victory of a party but a celebration of freedom—symbolizing an end as well as a beginning—signifying renewal as well as change. For I have sworn before you and Almighty God the same solemn oath our forebears prescribed nearly a century and three quarters ago.

The world is very different now. For man holds in his mortal hands the power to abolish all forms of human poverty and all forms of human life. And yet the same revolutionary beliefs for which our forebears fought are still at issue around the globe—the belief that the rights of man come not from the generosity of the state but from the hand of God.

We dare not forget today that we are the heirs of that first revolution. Let the word go forth from this time and place, to friend and foe alike, that the torch has been passed to a new generation of Americans—born in this century, tempered by war, disciplined by a hard and bitter peace, proud of our ancient heritage—and unwilling to witness or permit the slow undoing of those human rights to which this Nation has always been committed, and to which we are committed today at home and around the world.

"LET EVERY NATION KNOW, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and success of liberty.

This much we pledge—and more.

To those old allies whose cultural and spiritual origins we share, we pledge the loyalty of faithful friends. United, there is little we cannot do in a host of cooperative ventures. Divided, there is little we can do—for we dare not meet a powerful challenge at odds and split asunder.

To those new states whom we welcome to the ranks of the free, we pledge our word that one form of colonial control shall not have passed away merely to be replaced by a far more iron tyranny. We shall not always expect to find them supporting our view. But we shall always hope to find them strongly supporting their own freedom—and to remember that, in the past, those who foolishly sought power by riding the back of the tiger ended up inside.

To those people in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves, for whatever period is required—not because the Communists may be doing it, not because we seek their votes, but because it is right. If a free society cannot help the many who are poor, it cannot save the few who are rich.

"TO OUR SISTER republics south of the border, we offer a special pledge—to convert our good words into good deeds—in a new alliance for progress—to assist free men and free governments in casting off the chains of poverty. But this peaceful revolution of hope cannot become the prey of hostile powers. Let all our neighbors know that we shall join with them to oppose aggression or subversion anywhere

in the Americas. And let every other power know that this hemisphere intends to remain the master of its own house.

To that world assembly of sovereign states, the United Nations, our last best hope in an age where the instruments of war have far outpaced the instruments of peace, we renew our pledge of support—to prevent it from becoming merely a forum for invective—to strengthen its shield of the new and the weak—and to enlarge the area in which its writ may run.

Finally, to those nations who would make themselves our adversary, we offer not a pledge but a request: that both sides begin anew the quest for peace, before the dark powers of destruction unleashed by science engulf all humanity in planned or accidental self-destruction.

We dare not tempt them with weakness. For only when our arms are sufficient beyond doubt can we be certain beyond doubt that they will never be employed.

But neither can two great and powerful groups of nations take comfort from our present course—both sides overburdened by the cost of modern weapons, both rightly alarmed by the steady spread of the deadly atom, yet both racing to alter that uncertain balance of terror that stays the hand of mankind's final war.

"SO LET US BEGIN ANEW—remembering on both sides that civility is not a sign of weakness, and sincerity is always subject to proof. Let us never negotiate out of fear. But let us never fear to negotiate.

Let both sides explore what problems unite us instead of belaboring those problems which divide us. Let both sides, for the first time, formulate serious and precise proposals for the inspection and control of arms—and bring the absolute power to destroy other nations under the absolute control of all nations.

Let both sides seek to invoke the wonders of science instead of its terrors. Together let us explore the stars, conquer the deserts, eradicate disease, tap the ocean depths and encourage the arts and commerce.

Let both sides unite to heed in all corners of the earth the command of Isaiah—to 'undo the heavy burdens . . . (and) let the oppressed go free.'

And if a beach-head of cooperation may push back the jungle of suspicion, let both sides join in a new endeavor: creating, not a new balance of power, but a new world of law, where the strong are just and the weak secure and the peace preserved.

"ALL THIS WILL not be finished in the first one hundred days. Nor will it be finished in the first one thousand days, nor in the life of this Administration, nor even perhaps in our lifetime on this planet. But let us begin.

In your hands, my fellow citizens, more than mine, will rest the final success or failure of our course. Since this country was founded, each generation of Americans has been summoned to give testimony to its national loyalty. The graves of young Americans who answered the call to service surround the globe.

Now the trumpet summons us again—not as a call to bear arms, though arms we need—not as a call to battle, though embattled we are—but a call to bear the burden of a long twilight struggle, year in and year out, 'rejoicing in hope, patient in tribulation'—a struggle against the common enemies of man: tyranny, poverty, disease and war itself.

Can we forge against these enemies a grand and global alliance, North and South, East and West, that can assure a more fruitful life for all mankind? Will you join in that historic effort?

"IN THE LONG HISTORY of the world, only a few generations have been granted the role of defending freedom in its hour of maximum danger. I do not shrink from this responsibility—I welcome it. I do not believe that any of us would exchange places with any other people or any other generation. The energy, the faith, the devotion which we bring to this endeavor will light our country and all who serve it—and the glow from that fire can truly light the world.

And so, my fellow Americans: Ask not what your country can do for you—ask what you can do for your country.

My fellow citizens of the world: Ask not what America will do for you, but what together we can do for the freedom of man.

Finally, whether you are citizens of America or citizens of the world, ask of us here the same high standards of strength and sacrifice which we ask of you. With a good conscience our only sure reward, with history the final judge of our deeds, let us go forth to lead the land we love, asking His blessing and His help, but knowing that here on earth God's work must truly be our own."

Of Rain and Sun and Fruit

DOROTHY COOKE HAMBIDGE died November 10, 1960, of peritoneal cancer, after a long illness and much suffering, which she bore with characteristic gallantry and humor.

Our lives had been intertwined in forty-three years of marriage and a dozen earlier years of friendship and love. Among the tangible results, two children as mentally aware and spiritually sturdy as she; nine wonderful grandchildren; four books written about that life together. Less tangible, the influence in all my thought and feeling and action of a half-century of companionship with a noble human being. A person above all of singular candor and integrity, she was one of those rare individuals who, because they actually live the poet's line, This above all—to thine own Self be true, seem somehow to become touchstones by which we may test truth.

SID and this journal owe far more than I could define to her vision and ideals and faith—and not least, her fortitude, during the months of final sickness, in belittling personal needs to allow for the demands of an editor-husband's work. Decades before the first atom bomb made such an attitude respectable, and ultimately imperative, she was profoundly committed to the cause of peace and understanding among peoples. Her contribution to the *Review* was as natural as the influence of rain trickling down to roots, and sunlight on green leaves, in the ripening of fruit—a gift so creative yet so reticent that few think of an apple as the incarnation of sun and rain.

The disentangling of long-mingled personalities is hard, whether imposed by death or some other cause, and I am grateful for the expressed understanding of many friends in and out of SID.

Affirmation: to D.C.H.

Now to earth you loved return flamepure
endure
as long as land and sun and sea
transmuted myriadly
in that primordial trinity and source
of life and all we love
nor ever lose.

THE CHALLENGE OF ABUNDANCE

ROBERT THEOBALD

A DEEP SENSE OF UNEASE has been developing in the Western countries in the last decade. Despite the fulfillment and indeed the overfulfillment of many of the originally accepted postwar goals, there are few who feel that we can now relax. Although production and incomes have reached record levels, although a middle-class standard of living is being attained by an increasing proportion of the population of the West, there is still widespread economic dissatisfaction. In addition, many observers feel that the improvement in economic standards during the past fifteen years has been bought at a heavy social cost. They suggest that the attitudes necessary for the most rapid rate of growth are not those that encourage a meaningful life for the individual or a valid sense of community.

Even more disconcertingly, our successes have only revealed new difficulties. The experience has been similar to that of a mountain-climber who reaches the top of the only peak visible to him to find that others, far higher, stretch as far as he can see. For example, it is only in the years since the war that we have realized the full extent of the dilemma in the poor countries, that we have begun to understand the obsolescence of all concepts of national sovereignty in a world with rapid communication and mutual destructive powers, that we have started to examine the dangers brought about by the continuing social and economic revolution. We have learned that the victory over poverty in the rich countries that is now in our grasp does not relieve us of all responsibility; that new problems have arisen which we must try to solve.

Nineteen hundred sixty was memorable in the USA for the beginning of a debate on "The National Purpose." However, few people felt that the resulting discussion greatly clarified the situation. For while there was general agreement on the need to reconsider our way of life, it seems fair to say that few radically new policies were suggested, nor was there general agreement about which values were peripheral and which central to Western culture. The failure of these discussions to generate even a clear statement of the *issues*, despite the participation of many prominent leaders of opinion, demonstrated clearly our present position "Wandering between two worlds, one dead, the other powerless to be born." The object of this book is to examine the conditions in which we now live and to suggest the changes we must make if we are to deal with the alterations in conditions which our own actions have brought about. But more than this, its purpose is to suggest that we must develop a new *positive* philosophy if we are not to find our lives disrupted and destroyed by the very fruits of economic and scientific progress.

This book, like all syntheses, is a composite of many ideas. Certainly the largest proportion of them are already acceptable to specialists in the various fields of study discussed. Nevertheless the approach employed here is not a common one and it was therefore felt that the reader might benefit from a summary of the discussion. It is, of course, impossible to present more than an outline here: the supporting examples and argument will be found in each chapter.

Anyone who attempts to write about the future must be deeply conscious of his own limitations. There are too many uncertainties that make it impossible to "predict" events. It is only hoped that this book may provide a framework for discussion: that it will help to illuminate some of the important questions. Each new proposal made here should be considered tentative and open to further argument.

This first chapter of Robert Theobald's forthcoming book, "The Challenge of Abundance," appears in the Review *with the kind permission of the publisher, Clarkson N. Potter (New York), who also published the author's recent "The Rich and the Poor." For reasons explained in the text, the first chapter summarizes the entire book, chapter by chapter. Each of our side heads is actually the title of a chapter, with its corresponding chapter number; underlined heads are the titles of the three main divisions of the book. It should be especially emphasized that a brief summary such as this cannot contain the necessary qualifications and the expansions and examples included in the chapters themselves. Nevertheless we chose to use the summary rather than a chapter devoted to strictly international questions because we wanted to present the full scope of the author's argument, which interrelates many diverse aspects of national and international affairs in a kind of philosophic synthesis much needed but seldom seen in an age of intense specialization. "The Challenge of Abundance" is scheduled for publication in May at $4.50.*

I. THE ECONOMIC CHALLENGE

2. The Development of Abundance

THE FIRST ESSENTIAL, if we are to determine the nature of the problems that beset us and the solutions that might be given to them, is to define the situation we face. We must try to examine it free from the preconceptions in-

herited from previous theories. The primary value that distinguished the West from the poorer countries in the past was its pursuit of economic growth. This acceptance of economic growth led to alterations in economic conditions, in political and social realities, and also in international relations. Economic growth is synonymous with change.

The business corporation has been the prime driving force behind economic development and change in the West in the twentieth century. Its research and development programs have increased productivity and made it possible for people to buy more goods. These same programs have led to a change in the distribution of the labor force from being predominantly agricultural, through a stage when a large proportion was employed in manufacturing, to today's position when an ever-increasing number are employed in the service industries. In addition, the actions of the firm have increased the amount of goods people wish to buy through the development of new products and attempts to stimulate new desires. The actions of business enterprises have changed the economy from a relatively static state to that of dynamic movement. More goods are made available for purchase each year and more goods must therefore be bought if full employment is to be maintained.

This development of a high-production, high-consumption economy has deprived economic theories that were developed in earlier periods of much of their validity. We must develop new ones if we are to understand and control the economy today. Given our present economic and social system, the government must accept the responsibility of keeping the total effective demand for goods equal to the potential supply. In present conditions this means that it must ensure that consumer demand, investment expenditures, and government purchases do not fluctuate violently and that the total from the three sources is sufficient to allow the purchase of all the goods that can be supplied.

The real significance of the development of a high-production, high-consumption economy lies deeper. It allows, and indeed forces us, to re-examine certain basic theories by which we have lived in the past. In an economy of abundance, economic growth will not need to be given top priority; science could be used in such a way that it will increase rather than decrease the validity of human life. Similarly, we will need to re-examine the belief that the "invisible hand" of economic forces will automatically lead to a coincidence between private and social goals.

3. The Social Sciences: Help or Hindrance?

BEFORE WE CAN DISCUSS THESE MATTERS satisfactorily, however, we must understand how the ideas of the social sciences, of Western philosophy, and even our linguistic habits tend to direct our thoughts along certain stylized lines. Each country and group in society tends to look on its own values and way of life as *necessarily* right, while finding those of people in other societies either misguided or definitely wrong. We still have not understood the problems that arise when the values of two different countries come into contact, and usually into conflict. Nor have we really accepted that changes in conditions may make past theories completely inadequate.

One of the most important areas in which old theories are inhibiting the development of a viable society of abundance is our treatment of the distribution of income. This question of the *right* distribution of income was not discussed for several decades because of the economic theory that stated that it *should* be determined by market forces: that any interference with these market forces was unwarranted and would actually reduce the welfare of society.

This theory is now inadequate for two reasons. First, it is obviously essential to its application that one should be able to determine how much each person is actually contributing to the enterprise—what is the value of his activity. For unless this condition is met it is impossible to decide how much he should actually receive. In today's closely integrated world, where the value of one person's work depends in large part on the over-all operation of the economy, the contribution of any single individual to the volume of production cannot be meaningfully determined. Even more important, however, is the fact that with increasing abundance in the rich countries we can pay less attention to the effect of the distribution of income on the rate of economic growth and we can give far more weight to social justice.

4. Union-Management Bargaining: Conflict or Cooperation?

AS THE DISTRIBUTION OF INCOME is one of the major factors determining the nature of society, three chapters are devoted to a discussion of the forces that have affected and will change this distribution. First we discuss the efficacy and relevance of the currently accepted method of changing the division of income—labor-management bargaining. We find that the use of power has permitted the unionized worker to obtain a very large share of the increase in resources that has become available in postwar years and that this increase has been achieved at the expense of those with fixed incomes and certain types of savings.

In addition the labor-management bargaining process is shown to lead to many serious conflicts—most notably between the long-range and the short-range interests of labor. In the short run the union must be interested in obtaining the largest possible increase in benefits. However, the long-term effects of this increase will be unfavorable to the prospects of those in the union, for the increased payments for wages make it profitable for management to install more equipment, and thus cause a decrease in the labor force.

There was a period in the postwar years when labor and management "combined" to decide on the size of wage increases and passed the cost of these increases on to the public by raising prices. Increased resistance from the consumer has led many companies to abandon this approach in recent years. In some cases this change has simply led to a hardening of management attitudes toward labor demands. But some companies have evolved new approaches that may have more far-reaching results. Several corporations now claim that only they have the right to determine the proper distribution of benefits between stockholders, suppliers, labor, and the general public. These companies argue that the proper role of the union is to provide them with the information they require to carry out this process efficiently. They completely reject the past concept of the union as an independent agent that should try to gain the best possible bargain for the workers it represents. The strike between General Electric and the leaders of the International Union of Electrical Workers in the fall of 1960 can be understood only in terms of this difference in the concept of the proper role for the union that was advanced by the two sides.

5. The Responsibilities of Government

IT HAS LONG BEEN ONE OF THE BASIC TENETS of Western economic thought that the distribution of income should be determined by market forces and labor-management bargaining. In particular, it has been assumed that the government should not intervene in the economy. In today's world, where government action customarily accounts for a quarter or more of the spending in a country, this approach is unrealistic. The actions of government will necessarily affect the distribution of income. It cannot avoid helping some industries and hindering others; it will necessarily benefit some members of society by its actions and damage the interests of others. The demand for government "neutrality" is now unrealistic. This fact is demonstrated by examining how government activity inevitably affects the profitability and efficiency of various types of transport. For example, the need for progress in military aircraft has allowed the development of a subsonic commercial jet and placed in prospect a supersonic commercial aircraft for the end of the 1960's. Meanwhile the development of a 200 m.p.h. fixed rail form of transportation lags—although the technical problems involved in its development are almost certainly far less difficult.

6. Financing Government Activities

MANY NECESSARY SERVICES cannot be carried out on an individual basis; only the community as a whole can finance them. Our present tax systems are, however, both unjust and overloaded. We must therefore reconsider the means that governments should use to raise funds for their necessary activities. We must re-examine how government should obtain its funds in an economy of abundance. We have assumed in the past that balanced budgets are essential for the health of a nation, that a country cannot afford to allow governments to *create* funds except in an emergency. These beliefs must be discussed in the light of today's —and tomorrow's—realities.

Our systems of taxation are also based on beliefs that are no longer valid. In addition, our methods lack logic, for many types of taxation were introduced to raise money in emergencies but later were hallowed by their continued existence and are now accepted as "right." In addition, we have a preference for direct income taxes as opposed to indirect sales taxes—an approach also based on conditions in a ninteenth century economy.

A major change in approach is needed if governments are to compete effectively with industry in raising the funds they require. The present system of pricing goods allows the corporation, in effect, to "tax" the consumer. The firm sets its prices at a level that will not only cover its production costs but will also allow it to expand. The corporation levies a hidden tax, whose existence is not even suspected by the great majority of the population. On the other hand, most government taxes are not only open but are aggressively displayed. For example, most sales taxes are not automatically included in the cost of the product but added separately at the time of the purchase.

7. The Uses of Abundance

THE THREADS OF THE ARGUMENT so far developed when brought together suggest the necessary future evolution of the economy. A preliminary objection must first be answered. It might be suggested that our present system should not be altered because of its success in the past. It is the very success of the system that has made change necessary. The growth of the economy has made it possible to satisfy private needs to a great extent and has therefore made community needs relatively more urgent.

The discussion of the right distribution of income, carried further, shows that in today's conditions, market forces will not lead to a satisfactory distribution of the national income. In addition, individuals can no longer assure by their own efforts that a job will be available for them in the economy.

It is therefore suggested that we have a duty to ensure that nobody suffers through the operation of an economy which the individual can no longer control. Indeed as market prices do not reflect real values, it is possible that society should subsidize the student, the artist, the dreamer, the visionary, and perhaps even the writer—recognizing that many activities necessary to the vitality and indeed the survival of society will not be adequately recompensed by the working of the free enterprise system.

The discussion of the economies of the rich countries ends with a challenge to the "mythology" of growth, demonstrating that our conventional methods of calculation overstate the benefits to be derived from economic growth while understating or even ignoring the disadvantages.

II. THE SOCIAL CHALLENGE

8. Education for a Changing World

MANKIND HAS BROUGHT AN EVER-CHANGING WORLD into existence, but he has still given insufficient attention to its implications. We have not adjusted our educational and political systems to the effect of change, nor have we fully faced the philosophical implications of an ever-changing, ever-developing world. Our educational systems are still primarily geared to inculcating past theories rather than to teaching students "how" to think so that they can make sense for themselves of their own situations.

Education today can be meaningful only if we accept that it must be a lifelong process. The development of knowledge is now so rapid that we cannot be content to educate the child until he gains his high-school diploma, his M.A., or his Ph.D., and then leave him to fend for himself. We must find ways in which each person can continue to learn throughout his life. It may be necessary for the idea of sabbatical years—a period away from one's normal duties—to become general not only in the academic but also in the professional and industrial worlds. This will, of course, raise new problems—the educational relationship for older people must be one of mutual respect between the practical "student" and the theoretical "teacher," rather than follow the traditional teacher-student relationship.

9. Politics in a Complex Society

THERE IS NO "IDEAL" PATTERN for political control of a nation: all systems have both advantages and disadvantages. The ideal of democracy is the best that has been devised, but its application raises very major difficulties. We should not assume that the precise mechanisms that were devised for the application of democratic methods in the past will necessarily be suitable for the society of abundance that we are developing today.

Indeed, there may well be one major disadvantage to the

present methods of control used in the West. The democratic countries have relied on the use of power in settling disputes to a greater extent than many of the poor countries. We have allowed one group to bring pressure to bear on others, and have felt that the resulting decisions were just—or at least justified. Thus, the West permits strikes and lockouts: labor and management are legally permitted to pit their economic strength against each other. The acceptance of power as a method of settling disputes is far less complete in some other cultures that try to resolve conflicts by negotiated compromises between differing points of view or have developed their concept of law so that it covers more situations than in the West. The Western use of power rather than compromise is far from "ideal," for it very often leads to considerable bitterness, which antagonizes both sides for long periods and continues even after the dispute has been "technically" terminated.

The West has many power centers; some of the most important are the management of corporations. These groups have developed far more of the characteristics of a "government" than has been generally realized. For a variety of reasons, they have almost complete control over the actions of employees; in addition they have taxing power over all those who buy their goods. This power is subject to few sanctions; in most cases the directors of a corporation are not really subject to any form of outside control. Despite this lack, most observers would probably agree that the directors of companies usually act in the interests of their companies rather than try to benefit themselves. Or more strictly speaking, the interests of the individual within the firm have been made to correspond with those of the corporation. We need to consider the application of these facts to government activity. The present emphasis in government work is to ensure that each official's actions are subject to checks and balances in order to curb the use of unjustified power. We must examine whether we cannot develop a set of values that would ensure that the government official did not even consider using the advantages of his position to favor himself.

10. Our Goals in Tomorrow's World

WE HAVE BEEN DEALING PREDOMINANTLY with "means" in the discussion so far, although some ideas about the proper ends are obviously implicit in the argument. What should the goals of Western society be? It is hardly necessary to say that this subject has too many facets to be treated completely in this book; only some of the broader aspects can be discussed and some of the cruder fallacies dismissed. Our main need is to take charge of our destiny once more: to ensure that we control the use of scientific developments rather than that we follow post-haste wherever science may open new possibilities. Man must use scientific knowledge, he must not be used by it.

It has always been argued that science is neither good nor bad—but that it can be used for both good and bad ends. This argument is valid only so long as man examines the potential of scientific discoveries and decides for himself whether they are good or evil. Today, the development of science is leading man to take steps that will be harmful for him. This is only too obvious in the case of military weapons—it has recently been suggested that the "logic" of events may even force humanity to move underground if it wishes to survive. However, the danger also exists—if less obviously—that the development of computer and automation techniques could turn men into robots by demanding that decisions should be the most efficient and productive in terms of output.

What is the basic value of the West? It is its concern for freedom—for the basic right of each individual to make up his own mind. But despite concern with this problem, the record is not completely satisfactory. The West has often interpreted freedom as license. In addition, the process of industrialization has restricted the areas in which meaningful decisions can be made—institutional constraints limit the range of choice for most people.

Real freedom is possible only when man knows the goal toward which he wants to move and has the necessary information that will allow him to make the right choices in particular situations. Freedom is limited when the individual is unable to make his own decisions in the areas that are most important. Despite the potential freedom afforded by the rate of economic growth, our economic system does not allow most people the freedom to develop their lives as they think fit; nor is it very successful in providing the necessary information to allow man to make a *meaningful* choice. Economic developments *could* give fuller freedom to those within the rich countries, but the present methods of organization do not allow the development of this freedom. In actual fact, industrial civilization sets up *more* constraints rather than less for a large part of the population. It must be our concern to find ways of allowing the potential freedom available from economic growth and the increase in knowledge to be realized.

III. THE INTERNATIONAL CHALLENGE

11. The Needs of the Poor Countries

HOWEVER, IT IS ONLY ONE-THIRD OF THE WORLD that is in the happy position of being able to reduce the importance given to economic growth: for it is only in one-third of the world that a reasonable standard of living has been attained—or can be attained—in the next generation. The remaining two-thirds of the world is poor and getting poorer despite the misleading impression given by National Income Statistics that are calculated in such a way as to exaggerate progress and to minimize regression or even to make it appear as an improvement. The poor countries are beset by a multitude of immediate problems that must be solved. They will therefore be unable to grant all the liberties that a high material standard of living can make possible in the developed areas.

The problems of the poor countries have been described many times. These nations have low incomes, rising expenditures, and rising populations—their survival therefore demands a rapid rate of economic growth. But the poor countries believe that this economic growth must not be allowed to destroy their culture—that it must be a means to validate their way of life and not to undermine it. They believe that the pattern of economic growth in the West has led to unrestrained individualism that has removed the real meaning from life.

The rich countries must therefore re-examine the philosophy that lies behind their aid to the poor countries. Up to the present time we have largely concentrated on securing the maximum rate of growth and have felt justified in riding roughshod over any "cultural" opposition. We must look for a way of using economic growth as a means of preserving the validity of life rather than as an end in itself. We must not forget that there is undoubtedly a

fairly close correlation between economic growth—as it has been achieved in the past—and an increase in social ills.

The problem is not simple. Economic growth in the poor countries will require major changes in social systems. Present attitudes toward work, saving, and family size all insure that the rate of growth will be inadequate at the present time. Thus economic growth cannot be attained without some social disruption. The task of these countries is to decide on the pattern of society they wish to attain and then work toward it. Economic growth will be important in this process, but it cannot be given absolute priority.

12. Economic Relations between the Rich and the Poor Countries

THE RICH COUNTRIES will have to reconsider some other basic beliefs. We argue that the present system of international trade is not only convenient but is also *morally* right. We have failed to realize that the particular pattern of conditions in the rich and the poor countries enables the rich countries to sell their goods at a relatively high price while forcing the poor to sell theirs at relatively low levels. The rich countries gain more advantage from present patterns of trade than the poor. In addition, the terms of trade have been moving in favor of the rich countries and against the poor over the last decades.

We must also realize that both the pace of change and the very pattern of development have damaged the interests of the poor countries. For example, the profits derived from the introduction into the rich countries of synthetic rubber were far smaller than the losses incurred by the producers of *natural* rubber.

The rich countries must try to aid the poor in all the ways that are open to them. They must change the rules applied in international trade, they must encourage private investment abroad, and they will need to increase international aid. We must reconsider the whole concept of international economic relations, realizing that our present methods are only man-made and can therefore be changed to meet new conditions. One example might be given here. In previous centuries gold was the basis on which both the internal economies of countries and external trade were based. It was long ago recognized that the extension of credit was essential to the satisfactory operation of the internal economies of countries—we have applied this lesson very hesitatingly in international economic relations.

13. Are Power Politics Obsolete?

WE LIVE IN A TIME OF CHANGE and we will survive only if we recognize that we must alter our institutions to meet this change. The dangers that result from our unwillingness to accept the need for evolution in our ideals is most striking in international affairs. Each country still believes that its views are right and that all those who disagree with it must necessarily be wrong. Because of the increase in the rapidity of communication conflicting views clash with increasing directness at a time when violent conflict would lead to mutual destruction.

We have to develop new ways of looking at the world; we have to recognize that two countries may both be genuinely convinced that their policies are right and that those of others are wrong. We have to realize that the impossibility of meaningful victory in any war has deprived power politics of their real sanction—and therefore ultimately of all meaning. We have to understand that in today's world self-preservation is possible only if we can find ways to compromise our differences and if we adopt a policy of mutual concessions. If we are to do this, we must ensure that each country understands the aims of all others. The old sanction of breaking off diplomatic relations with other countries in times of disagreement no longer corresponds to present needs—for we cannot afford to be unaware of the aims and objectives of other countries. We will have to compromise our differences, for we have no way of imposing our will on others: the most basic need will be accurate information about the aims of others.

14. World Citizenship—Dream or Necessity?

ALTHOUGH COMPROMISE AND CONCESSIONS will require a change in our institutions—there is need for an even greater alteration in ideals. Mankind must cease to be loyal to its country "right or wrong" and adopt a wider loyalty. We must seek a policy that will be best for the world as a whole rather than for one particular country. If this is to be possible, we must provide a way in which those of like mind can meet together and build a forum for their views. I believe that this can be done only be creating a class of world citizens who will deliberately reject partial national interests. In this way we will eventually be able to rise above the present international disorder to an ordered transnational system.

ACCIÓN COMUNAL IN COLOMBIA

CARE AND THE COFFEE FEDERATION BREAK NEW GROUND WITH A PIONEERING SURVEY

E. GORDON ALDERFER

THE STATE OR DEPARTMENTO OF CALDAS in the Republic of Colombia sits on top of the Andean backbone of the continent. In its intermontane valleys, the biggest share of Colombia's great crop—coffee—is grown. Caldas, like other organized states of the Republic, is divided into a number of municipios, a form of local organization somewhere between the county and township of the USA. The core of each municipio—that is, its town center—is surrounded by various kinds and sizes of villages, called veredas. The structure of government, however, penetrates only as far as the municipio level, and at that rather haphazardly. Belen de Umbria is such a municipio in Caldas and illustrates many of the problems confronting the Republic. Located in the rich coffee highlands, it has nevertheless suffered severely during the twelve to fifteen years of civil strife that nearly disrupted the nation. Its entire population of 28,000 has lived through years of uncertainty, distrust, fear, burnings, and killings. Today Belen de Umbria is at last beginning to rebuild.

This was one of the ports of call of the CARE community development survey team in a rapid-paced survey of what forces of development were at work in Colombian community life, what obstacles those forces faced, and what potentials existed for winning the local battle against violence, dissolution, and poverty. The survey resulted from a shared-cost agreement between CARE and Colombia's National Federation of Coffee Growers, after Richard W. Reuter, CARE's executive director, had explored with President Alberto Lleras Camargo ways to instrument the latter's great hope for rebuilding the local fabric of national life.

David Howie, who came to join the survey task force from his CARE post in Mexico, visited the municipio in July. To make the rounds of its veredas, he had to travel by horse since, like hundreds of other Colombian communities, they lacked almost any semblance of access roads. He found that the rebuilding of the area, like pacification, is a slow process. The army still maintained military control of the area, but in this case the army was proving more than a temporary security force. It was lending a hand to help people build for a future.

Guerrilla leaders were still at large here despite the general amnesty declared by the government of President Lleras. Banditry was a problem too, for during the years of chaos, violence and banditry had become virtually a way of life for some who foresaw no future in the status quo. But the great majority preferred building to destruction; they were tired of flames and hatreds, and when Colonel Valencia, who was in charge of the army brigade controlling the area, would visit them and ask what they wanted most, nearly all answered simply "a home." Thus the military garrison was ordered to start helping the rebuilding process, particulary for the several score of "violence widows," women with children to support whose husbands and close male relatives had been slain in the years of chaos. Local municipal and church authorities pitched in too, and the CARE mission in Colombia provided construction tools and some of those unusual earthen block-making hand presses developed by Centro Interamericano de Vivienda. More than twenty houses were built during the first year and a number of others are in various stages of planning and completion. One of the veredas also built its own school by developing a work schedule involving each adult in the community. Thus with a little outside stimulus and some practical material aid, a community is moving from despair to hope.

No matter how often members of the survey team encountered this process, it was always like a thrill of new discovery.

The field survey started on July 11, 1960, and continued operations for three months. The team consisted of three experienced CARE representatives, to which was added the full-time services of the knowledgable and enthusiastic Dr. Hector Morales, appointed to the survey by the President's Office of Rehabilitation. Professor Richard W. Poston, author of various community studies, who as CARE's consultant on community development had just finished a round-the-world survey, also aided the Colombia study.

The team visited about 85 community projects in 14 of the 17 states of Colombia during this period, studied some 30 different agencies operating in Colombia at the community level, played a key role in the formation of two community development coordinating bodies in the important states of Antioquia and Valle, participated in the work of the newly formed Inter-university Seminar on Colombian Community Development, helped in setting up through CARE missions a study tour made by two Colombian representatives to study community development activities in the Philippines, India, Iran, and Israel, and participated in discussions that led to the formation of a new national Division of Community Action in the Ministry of Government. The 100,000 word report that resulted from the survey's work has now been issued, and plans are in the making for its translation and book publication in the Spanish language.

THIS HAS BEEN THE FIRST SURVEY of its kind to be undertaken anywhere in Latin America. Perhaps nowhere else in Latin America has the ground been so well prepared and the intellectual climate so stimulated for an assault upon the problems of local poverty, illiteracy, and disease

at the local community source of national life as here in Colombia. Indeed the significance of this pioneering inquiry is that its raison d'etre is embedded in the tumultuous recent history of Colombia.

Only two years ago did this country at the strategic hub of our hemisphere begin to emerge from a tragic period of twelve years of savage civil violence. During this period some 300,000 people lost their lives; entire communities were destroyed, and many of these, already separated by geographic barriers and an inadequate system of communications, were torn out of the national fabric; thousands of acres of cultivated land were ravished and reverted to a state of wilderness; many millions of dollars' worth of property were wantonly destroyed. A mere semblance of national life was precariously maintained by an increasingly irresponsible dictatorship. The national debt soared to unprecedented heights as a result of ill-conceived and ill-planned national capital investments and the decay of trade and production. Perhaps most serious of all was the decay of civic and local responsibility. After twelve years of savage violence the roots of collective community responsibility had widely atrophied.

Finally in 1958 the country recoiled from the brink of further disaster and national disintegration. The two major political groupings, after the dictatorship was replaced by a military junta, reestablished a regularly constituted national governing authority under which there was to be a system of parity in the distribution of federal, departmental, and local offices so that each party would share equally in the task ahead, first under the four-year presidency of one party and then of the other.

The new government under the leadership of President Lleras has had an uphill struggle to reconstitute national authority, pacify dissident elements, control the national debt, establish a better balance of payments, and begin to create facilities for a more meaningful community life with a view towards social and economic justice. Violence in certain sections of the country has not yet ended, but it has been contained in large measure. Enormous strides have been made toward the attainment of an equitable balance of payments and the reestablishment of national credit. But at the level of life of the campesino in the rural areas and the propertyless poor who have flocked in increasing numbers to Colombia's cities, the high objectives of the new era have not yet been reached. Although the CARE survey report contains numerous stories of many individual community efforts to establish a more viable and meaningful community life, so far as the nation as a whole is concerned such efforts appear scattered, limited in outlook, and uncoordinated in plan and execution.

The fact remains, however, that the new Colombia is fervently seeking ways to develop its resources and enrich the lives of its people where the great bulk of its population lives and where development really counts most—the local community. This is the reason why "Acción Comunal" is a term of wide currency and great hope in Colombia.

Yet this concept of acción comunal has been difficult to instrument. First of all, the long period of violence disrupted community life throughout many areas of Colombia and ended in the virtual disappearance of the habit of community cooperation. Secondly, continuing political volatility and factionalism seriously inhibit the process of national cooperation so necessary to community growth.

Moreover, as in many newly developing countries, the structure of civic government is built upon those nineteenth-century French constitutional principles that place the effective force for development at the political and economic apex, rather than at the communal roots of civil life, so that action and responsibility are extremely centralized. In other words, in Colombia there is very little legally constituted structure at the local level to support and carry out a process of development.

These conditions have also tended to aggravate another set of factors inhibiting local development—the uncertainty and insecurity of land tenure, the difficulty and expense of obtaining secure land ownership, and the effects of maldistribution and ineffective use of land. Without effective local legal entities to define boundaries and stabilize land tenure, a centralized government must inevitably find the necessary job of land administration and development a long and troublous one.

Colombia is by no means alone in wrestling with factors that seriously inhibit the improvement of local life. The fact of overriding significance is, however, that its progressive leaders have foreseen that economic health, social justice, and the physical well-being of its people must derive out of a process that begins at the local level. The improvement of national credit, industrialization, the enrichment of its cities will in the end be insufficient to support a nation desperately in need of growth and security unless these forces for development are supported by a community life that is both progressive and peaceful.

Thus the aims of the CARE survey were directly related to the most pressing current conditions and needs of the country, with the end objective to mark out the conditions for effective planned community action on a national scale. The survey's specific aims, originated in conversations between Mr. Reuter and President Lleras, included:

- Bringing into one report-focus not only the scattered experience of Colombian communities in finding ways to improve their dismally low standards of living and to induce social stability after well over a decade of civil violence but also the facilities available from both Colombian and international sources for community improvement.
- Stimulating a realization that community development is a technique that has a special relevance to the underdeveloped world, and for this purpose to see that representatives of Colombia witness first-hand, through the auspices of CARE, the advanced community development programs in the Philippines, India, Iran, and Israel.
- Defining the kind of training and personnel most suited to the conditions of Colombia upon which the success of a national movement of community development must depend.
- Assisting the process of publicizing the concept of community development as a broad-based national movement.

The findings of the survey revealed above all a fact that, surprisingly, even few knowledgeable Colombians seemed to realize—the fact that a national community development movement of significant proportions already existed. The basic concepts of the community development movement—as a collective effort to improve conditions of local life simultaneously on various fronts—has been maturing for at least two years under the leadership of President Lleras. The basic facilities to realize it are available, and both public and private organizational structures and financial resources are being developed to assist.

The Cafeteros, for example, are ready to spend 85,000,000 pesos a year for rural social development in coffee-growing areas and for training "socio-tecnicos" or

village workers to do the job. The federal government's various branches are organized to assist local programs in road building, housing, rural credit, cooperatives, public health, education, agricultural improvement. Most important of all, the government established in September a Division for Community Action in the Ministry of Government to serve as a focal point and chief coordinating agency for the national program. International and U. S. agencies are participating on a number of fronts. A regional TVA-type agency like the Cauca Valley Corporation not only extends electric power resources to the countryside but also carries out local extension services in health, home improvement, and agriculture. A variety of private agencies—Acción Cultural Popular (Radio Sutatenza), the Rockefeller Foundation, the National Apprenticeship Service, Heifer Project, and CARE—have contributed in a very substantial way to the improvement of local life by means (respectively) of rural radio education, agricultural and medical research, vocational training, livestock extension and improvement, and the programming of tools and equipment for direct community use.

There is no question about the availability of substantial resources for the job of rebuilding community life. This may be a surprise to many, even Colombians, who regard this Republic as one of the so-called underdeveloped areas. (With an average per capita annual income of only $283, a population that has tripled in the last 50 years, less than half its people able to read or write, prevailingly low public health standards, rapidly-spreading slum areas, and serious disturbances in the public order, the classification of underdevelopment is understandable). What is lacking—or has been until now—is the coordination of these substantial resources of money, material, and organizational structure for the rebuilding of local life.

THE NEED FOR EFFECTIVE COORDINATION was perhaps the chief emphasis of the survey's recommendations. Among other things, the report proposed the establishing of a permanent *working* congress of representatives from all major agencies operating at the community level to provide a medium for exchanging information, working out inter-agency means for avoiding wastage and duplication, and sharing knowledge of new technical and social developments that could improve community life.

The role of the government must be paramount in this. Upon that leadership will depend the growth of an increasing confidence and public sense of partnership in government. The scattered efforts of many entities—federal, international, regional, state, private (both non-profit and commercial)—can set the tempo for local development, as they have been doing. But in an explosive situation like Colombia's, explosive politically and economically, the time is short—and scattered, uncorrelated efforts will not lift a nation from the edge of chaos to internal security, progressive growth, and economic and social justice. Besides, continuing the job that way would be unduly expensive, in money, time, and effort.

We cannot help reminding ourselves that *underdevelopment is often a disparity not so much between industrialized and non-industrialized countries as between the widely separated sectors of the rich and the poor within the same country*. Colombia is a not untypical example. An economic and political elite exists as an inheritance traceable all the way back to the imposition of Spanish rule. During the intervening centuries bloods may have mingled, but the institution of the elite has persisted and hardened. The measured steps to a social order built upon opportunity for all responsible members of the body politic rather than on a widely distrusted status quo have not been well learned. The process of learning those steps is not easy, but it is greatly to the credit of the Lleras administration that efforts at national development are being made at the base of the economic pyramid as well as at its apex. Rebuilding the base is essentially what we conceive of as *community* development in the interests of those most desperately in need of opportunity.

To the establishment of a teamwork of resources and a reorientation of the elite toward longer-range national goals and responsibilities must be added another ingredient. Progress at rebuilding the community base of national life will depend in large measure also on administrative aptness. The design of plans and charts for proposed developmental operations—so prolific a habit in newly developing countries—is not enough. The important thing is the ability to translate plans into solid, measurable accomplishments. Perhaps one of the distinguishing characteristics of countries in immature stages of development is the vacuum that seems to exist between plan and action—a curious extension of Parkinson's Law. Plans seem to multiply like rabbits (fortified, indeed, by surveys), but effective action is slow to generate.

One of the disturbing characteristics of Colombian plans studied by the survey was their hierarchical character. In their descriptions of the personnel to be trained to carry out the job of stimulating local development, invariably they were divided into federal, regional, zonal, and local categories. Too frequently the emphasis was placed on the upper brackets. But, assuming a range of local flexibility in the job, no elaborate hierarchy is necessary to support the process, especially in view of the fact that the resources and basic machinery already exist. Community development means beginning at and in the community, not in a hierarchical payroll.

In recognition of this principle, the President's Office of Rehabilitation established a limited number of equipos polivalentes or "multi-value" teams of community workers at a time of dangerous instability in rural areas. Each team was composed of a medical doctor as team leader, two agronomists (one to work with adults, the other to concentrate on youth groups), a nurse, a home improvement worker. Before a team went into local operation, a study was made of the make-up and basic needs of each community it covered.

The polyvalent team was a group of professionals and specialists—but, luckily, they were more than that. They were trained, briefly, to serve above all as members of a community development team, and served in their specialized capacities only within that team context. Because their assignments took them to remoter and more disturbed areas, their double assignment—as community developers and as specialists—proved remarkably successful. Into most of these areas no single development operative or specialist had dared to appear alone for years. But what made the team idea succeed was the quiet, effective way it simulated the community—even the most dissident elements and guerrilla raiders, in some cases—to learn again how to work together, to discover its basic problems in its own terms, and to set in motion its own resources for improvement.

It would obviously be impossible, however, to apply the polyvalent concept to a really substantial national pro-

gram that would penetrate the entire country. Involvement of so many professionals would be too expensive, for one thing. For another, with the receding of the Violence, the team-type of operation is no longer so widely needed.

What is needed under the present circumstances—and quickly—is the development of a large corps of what we began to call "promotores del pueblo." The term is only awkwardly translatable, and in a sense it signifies a new set of skills, a new profession. The "promoter's" job does not require advanced academic training, but it does require a training in the application of common sense to community problems, a knowledge of what specialized skills and professional resources should be called on to meet specific community needs and where to find them, a sensitivity to the community as a living organism and not merely an unlinked chain of economic interests. He is not an "extensionist" with a single professional skill but a community generalist geared to help induce the process of local development. It is, at least from the point of view of the survey, the most important job in Colombia today.

The professional skills for development—in public health, practical education, agronomy, home improvement, local small-scale industry—already exist in some considerable measure in Colombia, according to the findings of the survey. They should be used as professional skills, called on as needed. Finding the personnel for training as promotores is a different matter, but preliminary searches seem to reveal large numbers of underemployed young people eager for this kind of service to their country. The real test will come in the evolution of an adequate national training pattern for the job and the extent to which various operative agencies make use of it.

As a pioneering venture, the survey seemed to us significant for a number of reasons. As the first survey of its kind in Latin America, we felt that CARE was exploring a new potential of development for this part of the world, as messages from both President Lleras and President Lemus of El Salvador indicated. It was significant, too, because it was made in a part of the world where the local community has been traditionally and tragically overshadowed by the central sources of power and wealth.

Thirdly, the survey represented a unique joining of forces between CARE and a major economic, non-governmental agency of another country. The Federacion Nacional de Cafeteros and CARE shared equally the costs of the survey, but the cooperation is more than that. There was much evidence that the progress of the survey had indirect but considerable influence on activities in various parts of the country and on centering attention on the potential for local development. Early in September, for example, the Coffee Federation established a regular operating department of Socio-Economic Affairs with the prime object of creating the facilities for a major community development effort throughout coffee-growing areas all over Colombia.

Finally, the survey represented a unique evidence of CARE's versatility, and perhaps a new departure which can in the future mean much to deepening CARE's relationships with other peoples. Never before has CARE "programmed ideas, information and personnel" rather than material quite so directly. Never before has it entered into the survey kind of operation, except in task forces aimed specifically at establishing a standard CARE program. It was, perhaps, a daring thing for CARE to undertake. But perhaps it is that quality that makes CARE an unusual symbol of the responsibility and capacity North American peoples feel for partnership with other peoples to face the challenge of "the revolution of rising expectations."

WHITHER THE WEATHER?

THE PLACE OF METEOROLOGY IN ECONOMIC DEVELOPMENT

GORDON D. CARTWRIGHT

THE PRINCIPAL ACTIVITIES in a developing country that weather data can help to make more efficient are transportation, agriculture, construction, town planning, public health, and, to a lesser degree, industry. Transportation, especially air transport, has been a prime user and provider of weather information. It is still one of the main incentives for better weather services in newly developing countries. Often the airline companies themselves have been forced to set up their own weather stations, and these have contributed to the total weather information available.

Water is in most countries basic in development. Its distribution over the land is at the "whim of the winds." The prevailing storm tracks, the topographic features, the planetary circulation of the atmosphere are important factors in this distribution. But even local features can be important. The site of a new city or an aerodrome or even a garden can be determined with greater chance of success if the details of the weather and climate are known.

There are basically two ways of estimating what the future weather will be: statistically on the basis of past events and dynamically from an understanding of the physical processes that go to make the weather. Which is preferable depends somewhat on the nature of the problem to be solved and the information that may be available. The first is customarily used for long-term assessment, particularly if precise detail is not needed. It is limited by the extent (in time) and the reliability of the data on which the statistics are based. The second is generally used for short-period forecasts. It still suffers severely from lack of knowledge of the physical causes of weather as well as of accurate information to put into the equations used in projecting these processes into the future.

The weather information needed for economic development can vary from that which can be derived from an elementary system, to information dependent on some of

the most complex theoretical and technical concepts. In fact, even with the most powerful scientific tools available from all scientific disciplines, it must be accepted that solutions to the basic questions of atmospheric motions still elude the meteorologist. There are highly encouraging signs of progress, and the great advances in knowledge in related fields are rapidly being applied to the atmospheric sciences. Radar, the high-speed electronic computer, and even the artificial earth satellite are all being thrown into the contest against nature's most complex medium.

WHAT SPECIFICALLY CAN BE DONE by the science of meteorology to help in economic development?

One might take the history of developments in the United States as an example of the way in which weather serves a growing nation.

Even in early colonial times, weather records were kept by a few interested people. These records are now invaluable in studying the trends of climate. (One of the most reliable of such records was that kept by Thomas Jefferson.) As the nation expanded into all parts of the country and as the first insight into the character of storms began to develop, a skeleton warning system was set up as an elementary safeguard against loss of life and property. Out of this system, made possible by the telegraph, grew daily weather bulletins and forecasts covering the major population centers.

As transportation and communication expanded, so did the demand for weather service and ability to provide it. The introduction of commercial aviation on a scheduled basis in the mid-twenties was a big impetus to improvements in weather services and brought about a whole new concept of weather networks and communications.

Meanwhile there was steady improvement in the painstaking collection of weather statistics. The work of the early settlers, who, out of their personal interest in weather, had kept reliable records for generations, became the pattern for a countrywide system of volunteer weather observers who made observations according to a system established by the government. Their only rewards were the satisfaction of studying nature's ways and pride in contributing to man's knowledge and their country's improvement.

Today there are some 15,000 such cooperative observers in the United States, working largely without pay and so organized as to provide information covering all areas of the country. Some of them have been so faithful and careful in keeping records over an entire lifetime that their services have been recognizd by the President. The highest such award is known as the Jefferson Award.

This system of records, some dating back more than 100 years, is now available for analysis by modern electronic methods. It is a basic ingredient in economic, industrial, and political planning of all sorts. For in no other field is the saying, "the past is prologue," more applicable. These records now extend also to the field of water resources, as reflected by data on river and lake levels, rainfall, snow depth, evaporation, wind speeds, and other factors.

During the early part of this century the country sought greater use of its rivers and lakes as transportation links, as sources for irrigation water and electrical or mechanical power, and as sites for many expanding industries. This made it essential to know more about the possible fluctuations in streams and rivers, particularly the extent of flood waters.

One consequence was a request by the Corps of Engineers of the U. S. Army for the Weather Bureau to undertake a series of special studies to determine the maximum possible rainfall over the principal watersheds of the nation. These hydrometeorological studies, which began in the mid-thirties, are still being refined to make clear the connection between the meteorological and the hydrologic problem. They have been of great economic value in determining the optimum size and strength of river works, storage and power dams, irrigation projects, and in fact virtually all kinds of construction along rivers and lakes.

The project has not only been of engineering value; it has brought new understanding of storms and how the great flood-producing rains come about. The end of this task is still not in sight, for as the country changes, the characteristics of the river basins change, and the need for more refined and localized information continues to grow. One of the interesting consequences of the demand has been greater emphasis on techniques for forecasting actual amounts of rainfall.

Israel provides a more recent example of how weather information is being used in national development. Fortunately, the country had skilled meteorologists from the beginning. As a result considerable data was already at hand, and plans for projects in which weather might play a part could be correlated with them. Such important steps as the determination of areas for agricultural use, the siting of new communities, and the development of water sources were based on the best climatic information that could be assembled. Even the orientation of the homes on building plots was decided only after taking into account the prevailing winds for that particular area.

The term "water resources" is heard more and more in both national and international debates. In many areas of the globe water is already the single natural resource most limiting to development. Increasing sums of money are being spent to find ways to make use of inland saline waters and to convert sea water into fresh water.

An example of the growing need for more water to keep pace with modern society's consuming thirst can be found in the State of California. The average annual runoff (that is, water available for use directly by man) is 70 million acre-feet; but this runoff has varied over the past half century from 18 million to 135 million acre-feet. By the beginning of the next century, the annual requirement in the State is estimated at 55 million acre-feet, three times the minimum known to have occurred.

Since the atmosphere is one of the basic links in the so-called hydrologic cycle, the role of the meteorologist will be an important one in the control and use of the earth's waters. This fact was recognized recently in an international sense when the Congress of the World Meteorological Organization established as one of its technical bodies a Commission for Hydrological Meteorology. Unesco has also stimulated interest in water as the essential element in the arid zone problem. This work has not only been useful to countries having major arid zones within their borders; it has also focussed attention on the problems of water resources generally. Research and training activities generated by the Unesco programs have had a beneficial effect in several related fields.

WHAT IS THE MAGNITUDE of the task of setting up an adequate weather organization to support economic development?

Essentially, a weather service needs observing stations to report the actual weather, rapid communications to centralize these reports, competent meteorologists to analyze the reports and to issue predictions of future weather, and finally a reliable means of communicating these facts and predictions to those directly concerned and to the public in general. There are many adjuncts and specialties that might be embraced within this broad system, such as climatological statistics, hydrologic stations, river-height forecasters, agricultural specialists, aviation forecasters, and atmospheric pollution specialists.

Again we might take the United States of America as an example in order to get some idea of the magnitude of the undertaking. (Someone has figured out that if every person on earth were given a piece of the atmosphere to watch over, each of us would have a block about a cubic mile in volume.) Because of the size of the USA and its highly diversified weather, it takes more than 700 weather stations of various kinds making reports by radio or teletype (some hourly or oftener) to keep abreast of weather developments on a day-to-day basis. In addition, some 4000 observers report irregularly, depending on weather conditions. The rest of the 15,000 observers mentioned earlier send their data by mail, usually monthly.

This is the situation in a large temperate-latitude country with a highly industrialized economy, and with extensive and varied agricultural areas, widespread transport, and so on. If we consider a less industrialized country, situated in a tropical or subtropical region, the needs will obviously be quite different, first because the physical processes of the weather are different (and incidentally less clearly understood), and secondly because their effects on the economy are different. Usually the economic effects are less pronounced from day to day though they may be fully as important over the long term. In other words, the daily forecast for tomorrow may be less important than information about long-term trends or highly localized variations.

In such areas the most essential needs can often be met by the simple, relatively inexpensive climatological network, operated largely with cooperative or part-time observers. The important ingredient in operating this type of meteorological network, or for that matter any other type, is the integrity and continuity of the data. This requires discipline and persistent devotion to the task, which is neither spectacular nor highly remunerative. All the necessary elements of the system are well known and uncomplicated; but the data that result can be basic to almost all kinds of planning and national development. Modern electronic machines can speed up the analysis and publication of the data, but almost exactly the same results can be had by reasonably skilled workers, carefully supervised.

One of the problems in advising new countries just entering the technological fields is to avoid overselling the immediate benefits of meteorology and to caution against tackling at the outset the expensive types of organization and equipment. Meteorology, like medicine, is an easy prey for the charlatan; given a good measure of salesmanship and a little imagination, he can make claims that have great appeal. But, sadly, there seem to be no secret formulae or devices to solve the weather problem.

WHAT CAN BE DONE to help provide the background of statistics and the technical organization to exploit the atmosphere and to minimize the effects of its vagaries?

The basic guidance on what is needed, the procedures for carrying out the operations, and assistance in training personnel is available in some degree through the customary technical assistance programs under the United Nations and under certain bilateral plans. There are, nevertheless, often two principal deficiencies remaining: the means for communicating the data between stations and the funds to provide expendable equipment, especially for the upper-air observation system. This may cost more than $100 a day for each upper-air station.

One aspect of this problem that should not be overlooked is its universal character; the weather knows no political or geographic boundaries. In order to make a good forecast of tomorrow's weather, it is often more important to have information from over your neighbor's territory than over your own. Consequently, weather networks must be built up on a worldwide scale if the individual national problem is to be adequately solved. Fortunately, the broad planning in this respect has already been done through the World Meteorological Organization. Effectuation of these plans is badly needed. Again, the international technical assistance programs are a logical though currently a wholly inadequate solution.

Bilateral aid should be designed to assist in filling in the major deficiencies in this worldwide scheme. It will be to the immediate benefit of the providers as well as the receivers of the aid. As the world plan grows in fulfillment, the big weather centrals operated by some of the more fortunate countries can eventually cover the earth with their charts and their generalized forecasts. If worldwide facsimile broadcasts can also be set up—and such a plan is under study—any country with a suitable receiver will be able to tune in on those broadcasts of interest and apply or refine them to suit their own needs. Weather satellites will do much to fill in the gaps that now exist in the observation networks over oceans and desert and polar areas, providing a truly global view of our atmosphere, that "ocean of air that unites all peoples."

Under such a scheme, the weather men of the smaller countries would be able to give all their attention to their own local problems. With greater use being made of high-speed computers, one might easily visualize major international weather centers that could on request provide specialized forecasts for individual countries or areas. While the skeleton of such a plan is already being formulated and the basic technical elements needed are already in hand, its realization, as in the case of many other international schemes, will no doubt take many years and require innumerable conferences. But it is a goal we can all share both as contributors and as beneficiaries.

CREATIVE TECHNOLOGY AND ECONOMIC GROWTH

INADEQUACIES OF TRADITIONAL ECONOMICS

ROBERT A. SOLO

MORE THAN SIX YEARS AGO I published an article, "A New Direction for Economic Inquiry" (*Social Science*, June 1954), in which I suggested that a new problem was soon to move center stage. Hitherto the whole of Western economics had revolved around two questions, namely, what determines price, and what determines aggregate expenditure? An answer to the first constituted the classical and neoclassical economics of exchange. An answer to the second constituted Keynesian national-income economics. But now a new economics must arise in response to a question being asked by society with increasing urgency. The question was, what determines per capita output? Or as its dynamic aspect, what determines development? The "future economics," I predicted, "will be . . . a true economics of production analyzing the utilization of resources and probing the mysteries of productivity."

The remarkable fact was not the prediction but that it should have been made so short a time ago. Flooded as we are today with books, speeches, agencies, slogans, articles, institutes and seminars, theories and statistics, it is hard to recall that a mere six years ago there was in the West not a journal article, not a scholarly treatise, not a chapter in an economic text that focussed on productivity and development. It is perhaps easier therefore to excuse the profound inadequacy of current theory if the brief span in which economics has been directly concerned with these problems is taken into account.

Capital Accumulation and Per Capita Output

THE CLASSICAL, NEO-CLASSICAL ECONOMICS has a theory of productivity of sorts. It was a theory created within the market schema as a variation on the general theory of exchange, to explain and justify the price for the use of money—that is, interest—under conditions of static equilibrium. Productivity is there postulated as a linear function of capital accumulation. More capital per capita is equated with higher productivity. Less capital per capita equals lower productivity. That was the answer economics gave to policy makers and practical men. One answer to all who sought the way to development: more capital per capita. More capital for India. More capital for Africa. More capital for England. More capital for Puerto Rico. One truth, an open sesame for growth.

The "stagnation" theorists had long been decrying technological change as "capital saving." One would suppose that their thesis might have raised doubts as to the value of the traditional theory of productivity. It did not seem to. Asked to explain unemployment, the economist alleged less capital per capita. Asked to explain higher productivity, the economist alleged more capital per capita. It did not occur to anyone that some contradiction must exist where the rise in productivity kept pace with the rise in unemployment.

In 1956 Professor Moses Abramovitz correlated changes in per-capita output with changes in the quantum of capital per capita in the USA from 1870 to the 1950's. ("Resources and Output Trends in the United States since 1870," *American Economic Review Proceedings*, May 1956.) Abramovitz wanted to measure the importance of capital accumulation. To his great discomfort, he discovered that it had no importance. A spate of studies followed his, covering the same period, by Fabricant of the National Bureau of Economic Research, by Solow and by Passineti of MIT, by Massel of the Rand Corporation. The key conclusion was always the same. None found a significant relationship between capital accumulation and productivity. Over the whole period of American industrialization, capital per capita remained virtually constant. The theory didn't work.

In retrospect it is hard to see why the traditional theory of productivity should ever have been expected to work. The phenomenon we have been witnessing for a century has been one not of accumulation but of change from a lower to a higher level of technological mastery. That methods of production and distribution embodying a higher level of technological mastery should require more or less capital—that is, a larger or a smaller quantum of resources immobilized in the form of producer durables—is of little consequence. Whether more or less capital is required, the essence of the change is the incorporation of the new, the unfolding of the previously unconceived, the reaching toward goals born out of man's creative genius. But that growth may require no accumulation of capital does not mean that growth is costless. The process of change itself is costly and must be paid for. Capital accumulation or capital decumulation, growth needs investment.

The Industrial Revolution

WE SPEAK OF THE "INDUSTRIAL REVOLUTION." In earlier generations it was experienced by England, France, the United States of America, and Germany. In our day Russia crossed and China is crossing its threshold. For India, Latin America, Africa it is a great and obsessing goal.

But what can the term "industrial revolution" mean? It cannot be identified with the adoption of particular techniques, the use of particular instruments and machines, since the industrial revolutions of the various nations (England, Germany, Russia) were related to the use of quite different sets of techniques and instruments. Nor can it mean the substitution of factory for farm, since, for ex-

ample, the farmer of New Zealand or the settler on the Israeli kibbutz has also crossed the threshold of the industrial revolution. The industrial revolution means (and this is no matter of semantics but of the nature of a real and specific historical event) a change in the ideological framework—in the attitudes and values, in the very way of comprehending phenomena—within which economic activities are carried on and technological transformations are achieved.

That transition in the ideological framework called the industrial revolution, where it initially occurred, was from what I should term the *craft economy* to the *shop economy*. In the craft economy, techniques and processes of production evolve organically, as a Darwinian residue in the competitive survival of chance mutations. Techniques and processes are passed on, not as methods understood but as mysteries practiced, acquired by son from father, by apprentice from master, by imitation and observation, through the skin, so to speak, into the instincts. The dominant social value is continuity. The primary individual concern is status. Production and distribution are integrated into a rigid complex of tradition and ritual. Creative imagination must find its outlet elsewhere than in the performance of the economic function.

The craft economy became the shop economy. The shop economy turned production and distribution from a ritual into a study of time and motion. Techniques and forms of economic organization are made subject to imaginative manipulation, to rational choice, to planning. Activities are systematized, blueprinted. Costs are set in perpetual balance against gains. Operations become the instruments of individual ambitions. Individuals strive for self-betterment in the vortex of exchange. Self-interested individualism is the motive force. Efficiency is the universal watchword.

The Organizational Revolution

THE CRAFT ECONOMY became the shop economy. This was not the last transformation of the ideological framework. We are today in the midst of another economic revolution, equally profound. Thus the president of a great American corporation, looking at the world around him, observed:

"The key institutions of our society have all outgrown the control of the single gifted personality . . . progress in any field requires the creation of an organization . . . any corporate or other organization represents a cross section of society—the brilliant and the dull, the generous and the grasping, the good and the bad. Grouped together the weakness of the one is compensated by the strength in another . . . whatever dispositions may be present, it is the average, the composite which must prevail." (Crawford Greenewalt, in the 1958 McKinley Foundation Lectures at Columbia University, as paraphrased in *Business Week,* 10 May 1958.)

From shop economy or from craft economy to the economy of organization, from the free-wheeling individualism of the man-sized shop to the organized group—this is the current revolution. Whether Western corporations or Soviet trusts, activities of multitudes and a vast complex of economic functions are brought under an integral control. Necessarily, organization requires officialdom, bureaucracy, a plan, and the substitution of some form of collective choice for individual choice. Which implies (and which requires) a fundamental alteration in the framework of social values and conceptions, from entrepreneur to organization man, from inner-directed to other-directed, from individual to collective values.

Historically the industrial revolution was a transition from the craft economy to the shop economy. But today the craft (underdeveloped) economies have as their goal not the shop economy but the economy of organization. They seek to imitate, assimilate, catch up with and stand abreast of the advanced, and *quickly*, for the trick is to leap over the backwash of progress that drags down those who trail behind. The craft economies must leap directly to the economy of organization because they have no time for transitional stages. And indeed it is doubtful that they can tear loose from the craft economy in any other way. That they have not done so these many centuries suggests that the special conditions enabling a spontaneous transition from craft to shop economy do not exist in those societies. Transition itself must be organized, and an organized transition will likely be a transition to organization.

The Organization of Creative Growth

TO THE EXTENT THAT IT OCCURS, the growth process takes place within a framework of ideas and values. Assuming the ideological framework, consider the growth process itself. Growth is in the transformation of technological systems towards *goals* that embody a greater technological mastery. For growth to continue, these goals must be perpetually renewed. A renewal of goals means the continual devising of previously unconceived relationships—that is, it requires discovery and invention.

Traditional economics has nothing to say with respect to discovery and invention. This is what would be expected, for traditional economics postulates the conditions of the shop economy, and for the shop economy, creative technological development is outside the orbit of rational choice and systematized operations. In the era of the shop economy, flashes of genius, like flashes of lightning, happen—but they are not harnessed. Discoveries and inventions may, like war and the plague, have a profound impact on economic events, but they are not of the economy. The economy was a machine that put to use whatever good or bad fortune made available. Discovery and invention were parameters merely, matters of chance. The shop economy mobilized the knowledge and the conception that existed, but the bringing forth of conception and knowledge was not part of its system.

In the economy of organization, technological creativity has been made a part of the economic system, paradoxically because organization is the bane of creativeness. Where the actions of individuals and economic activities are fitted into the precision of the plan, then, to the extent that this is done and because it is done, there can be no experimental deviation by participants. When the individual is obliged to follow the plan, his activities are in effect preordained, determined beforehand, and hence spontaneous creative choice is precluded. The plan eliminates creativity unless creativity itself is planned. Ours is not the first organizational economy. It was rather the shop economy of individual choice loosely coordinated by the mechanism of world markets that is the exception in the stream of world history. And in the many economies of organization that preceded our own, it was, characteristically, the effectiveness and perfection of organization—in ancient China, for example, or in mercantilist France—that stifled the capacity for creative change.

Ours is not the first economy of organization, but it is the first to organize creative growth. It is the first to make

discovery and invention into a controlled process, the process called *research*. This has been the revolutionary economic contribution of the new transition. The bane has become the boon. To organize the inventive and developmental activities and capacities is to rescue them from the play of mere chance. It becomes possible for the first time deliberately to search out, to cultivate, and to harness creative capacities. For the first time invention and discovery become processes, subject to control, subject to direction, subject to rationalization, and, qua processes, open to an unlimited creative development.

Underdeveloped Economies and Research Organization

ONE MAY AGREE to the abstract desirability of creating and developing research capacities. One may further agree in general that research holds the richest payloads of the future, and yet oppose a policy designed to build those capacities into an underdeveloped economy.

There is the danger that what emerges from a policy designed to encourage research will be no useful tool but a fetish. There is truth in Professor Boulding's jingle:

> "In modern industry research
> Has come to be a kind of Church
> Where rubber aproned acolytes
> Perform their scientific rites
> And firms spend funds they do not hafter
> In hopes of benefits, hereafter."

It is vital to recognize the value of science. It is equally important to understand that there is no god, Science, who delivers good things unto those who perform the rituals of research. Research is no priestly ritual but is a process that, properly understood, is in direct contradistinction to the notion of science as a mystical absolute. The very value of this process is that it makes technological creativity and development purposeful (with goals to be chosen reasonably), accountable (with efforts and results subject to evaluation), and rational (with energies to be directed where their utility is likely to be greatest).

The governments of underdeveloped areas may neglect to encourage the organization of research merely because they do not comprehend and hence cannot act purposefully with respect to it, or because, in terms of pay-off, it seems too vague, too costly, and too distant in returns.

When considering the "costs" of research, an underdeveloped area leadership should reflect on the nature of the resources that are being expended. Not all resources are transformable. Some must be used as they are or not used at all. The latent creative prowess of a people is one of those. Nothing is added by refraining from its use except the meager value of the labor energy of creative men that would otherwise be devoted to menial or mechanical tasks. The creative powers of a people are like flowing water, a resource which, if not used, is wasted. Nevertheless there is a price to be paid in finding, training, orienting the creative powers of a people, and harnessing those powers to economic growth.

By all odds the most significant real "sacrifice" of resources required for the promotion of research is in the education needed to prepare men for their task, and in the creation of an industrial complex able to provide an outlet for creative technological accomplishment. Except that these two, education and industrialization, can hardly be regarded as *costs* since they are primary objectives of social policy in all underdeveloped economies; education because it is inherently to be desired, and education and industrialization because these are paths to higher productivity and a more secure and comfortable individual life. It is not only that these two requisites to the organization of research are inherently desirable. More than that. The research outlet is the "soul" of a vital program of higher education, and the research output is a prime resource in attracting industry and developing it. In sum, there is no sacrifice of resources in the (research) organization of people's creative capacities, but only those difficulties that inhere in any reorganization of basic social institutions.

Leadership in underdeveloped areas should understand that research is only a technique for answering questions, a problem-solving technique that makes use of such knowledge, theory, and scientific skills as are currently available. The problems may be universal or particular, the questions may be interesting to philosophers only or specific to the needs of peasants. The problems and the questions, properly, are to be posed by the community. Research is the machine for dealing with such problems skillfully, creatively, in an organized fashion. The Russians boast of their sputniks and their physics, but rather than these it was the instruments of practical industrial research, inaugurated three decades ago, in the depths of their poverty and desperation, that were the core of Soviet economic growth, and it is these that are relevant as guides to developmental policy in underdeveloped areas today. Thus, the London *Economist* (2 July 1960) describes a research center for machine tools started 27 years ago:

> "Its prime responsibility is in the general planning of Soviet machine tool production. Formerly this meant determining the sizes and ranges which it was considered economic and technically desirable to produce. Now the tendency is towards qualitative development of individual types, since the Soviet range of production is considered adequate to cover the main needs of industry.
>
> "A further responsibility . . . is therefore the design and development of new machines, though it carries out only a fraction of this work in Moscow . . . The research department . . . concentrates on problems common to the whole machine tool industry, such as vibration rigidity, lubrication and wear. Special departments concentrate on the application to the machine tool industry of allied techniques, for example, hydraulics and pneumatics, electrics and electronics. Liaison is maintained not only with similar bodies in COMECON countries but also with western research centers.
>
> "A third major responsibility of ENIMS covers every aspect of standardization and rationalization in the metal-cutting branch. One practical effect of this policy has been the virtual elimination of duplication between plants and the introduction of automobile production methods into the building of machine tools.
>
> "Transfer lines . . . owe their development entirely to ENIMS which enjoys the unrivaled asset, for a research establishment, of its own associated, adjacent factory . . .
>
> ". . . ENIMS enjoys the virtually unassailable advantage of being organic in conception and thoroughly integrated into the practical workings of the industry it serves."

Underdeveloped-area leadership that supposes it sufficient to "borrow" the techniques of advanced economies should remember that effective borrowing also requires research. From a world of the most diverse activity, and from an endlessly changing complex of "knowledge," particulars must be comprehended, evaluated, adapted, and applied within the peculiar circumstances of a particular time and place. This requires the capacity of the expert to comprehend. It requires experimentation. It requires the discovery of relationships. It requires creative choice—in fact, the organization of high-level research.

The Key to Creative Development

IN SUM, THE CAPITAL-ACCUMULATION THEORY of traditional economics does not offer an adequate explanation of economic growth. Growth rather must be understood in terms of a general framework of values, and of the change-generating activities that take place within that framework. Economic revolutions are the radical transformations of the value framework. Two such historic transformations may be identified, from the craft economy to the shop economy, from the shop economy to the economy of organization.

In the shop economy, change-generating activities are spontaneous and haphazard. In the organizational economy, creative change itself is organized. The organized process of creative change is called research. The underdeveloped society today, faced with the need to leap from the craft economy to the economy of organization, must not overlook research as the means of harnessing its own creative capacities to the task of development.

AGRICULTURAL DEVELOPMENT IN COMMUNIST CHINA

RALPH W. PHILLIPS AND LESLIE T. C. KUO

CHINA IS A VAST COUNTRY, varying widely in its land, its climate, its agriculture, and its people. Extending across some 35 degrees of latitude, and with extreme ranges in elevation and in precipitation, it has many types of agricultural production. At one extreme are the intensively cultivated rice fields of the south. On some of these, two crops of rice are grown per year; some are drained after the rice harvest for the production of a crop of winter vegetables. At the other extreme are the grassland areas of the northern Manchurian provinces, Inner Mongolia, Kansu, Chinghai, Sikong, Tibet, and Sinkiang, with their herds of sheep, goats, cattle, yaks, and camels. In between is the so-called wheat area, north of the Chingling Mountains and extending to the edge of the grasslands.

China is now a country of revolution. Although the revolution in political structure is practically complete, and the country has been started on the path of industrialization, agriculture as such is in only the early stages of revolution. However, the farmers who work the land, the Tibetan, Mongolian, Kazakh, and other grassland peoples who follow their livestock, and the agricultural scientists who serve both groups, have been organized, and are being further organized and trained, not only to complete the revolution from a peasant to a modern agriculture, but also to ensure that agriculture serves the ends of political and industrial revolution.

EDITOR'S NOTE: This paper is based on one entitled "Agricultural Science in Communist China," which was presented by the authors as part of a symposium on The Sciences in Communist China, sponsored by the American Association for the Advancement of Science in New York on December 26-27, 1960. That much more detailed version, including some 120 literature citations, will appear in a AAAS symposium volume during 1961.

Agricultural science, with its many phases, is complex in itself. But in Communist China, it must be considered in relation to the political thought and action that have controlled its development. In that control, emphasis has been placed upon production and the furtherance of research that might contribute to immediate increases in production. Hence much more can be said of the applications of agricultural science than of new fields of exploration. But the two are so interwoven that it is hardly possible to treat them separately.

The information we have on agricultural science and its application is far from complete; in addition to the many gaps, some of what we have is no doubt misinformation. Only a brief resumé is presented here.

Agriculture in China is already highly socialized and organized to serve the interests of the state. The present situation has been arrived at in three major phases:

- A land redistribution or land reform phase, which was carried out from the time the Communist regime came to power in 1949, through 1952. Under a law promulgated in June 1950, some 116,670.000 acres of land and large numbers of draft animals and amounts of farm tools and other property were redistributed to farmers.
- A cooperative phase, during which there was a shift of ownership control from the individual farmers to the cooperatives, and the development of mutual assistance brigades. In some cooperatives the land remained the property of individuals but was utilized by the cooperative as a whole, while in others it became the property of the cooperative. This phase was carried to completion during the First Five-Year Plan, 1953 to 1957 inclusive.
- The transformation of groups of cooperatives into people's communes. This process began in 1958. By the end of September 1958, 121,936,350 rural households, or 98.2 per cent of the total, had been organized into 26,425 communes, and the basic transformation was completed by December of that year. This was not only a major step in the completion of the collectivization of agriculture, and practically a final step towards state ownership, but it also provided a broader base for industrialization through the use of the capital, facilities, and labor force controlled by the communes. The hsiang or administrative unit below the hsien or county level was the basic unit for formation of a commune, and the governing authority for the hsiang appears to have become synonymous with the administering authority of the commune. The ownership of banks, stores, and certain other enterprises was transferred to the communes.*

If phases two and three came as a shock to those who felt, or at least hoped, that the new regime in China was

* Since this manuscript was prepared a report emanating from Hong Kong indicates that the Chinese communists may, in their own terminology, be taking "two steps forward, one step back" with respect to communes; for there are indications that, to meet food shortages, they may be reverting to cooperatives and to permitting peasants to retain small plots of land and to raise a few swine and poultry. RWP

made up of land reformers rather than communists, it need not have been so, for the line was laid down by Mao Tse-tung as early as 1943 and was followed in the drafting of the constitution and in statements of party leaders in the early years of the new regime. Perhaps the only surprising things were the earliness and the speed with which the government felt it was in position to move on the third phase.

Herculean efforts are being made to increase agricultural output through the application of existing knowledge; through the conservation and development of the country's resources by such means as soil conservation, water conservation, extension of irrigation and afforestation; through the production of the requisites of production such as fertilizers, pesticides, machinery, and improved tools and implements; and through efforts to prevent or attenuate natural calamities by building flood-control works, studying meteorological data, and other means. In all these efforts, agricultural science has had its role, subordinate to political objectives.

IN A COUNTRY THAT IS THE MOST POPULOUS on earth, with between 600,000,000 and 700,000,000 mouths to feed, and a billion in prospect, the conservation and efficient use of soil take on special significance. The terracing done by Chinese farmers over many centuries, mostly by hand labor, was a monumental achievement. Mounting population pressures have made it necessary for the government to assess the soil resources and to take further steps to preserve them, and at the same time to conserve and more effectively utilize the water supply.

A nationwide soil survey is under way. A generalized 1:10,000,000 scale map of the country has been completed showing the distribution of 64 soil types. Detailed maps are being prepared on the basis of field work, much of which has already been done. In Kwangtung, for example, it is claimed that nearly 180,000 technicians and peasants participated in field work over a six-month period and that soil maps and land utilization maps of 1:10,000 or 1:5,000 scale have been prepared for all communes, and on a smaller scale for various special districts and hsien. Also, a 1:200,000 scale map of the province and a publication on its soils have been completed.

In addition to what appears to be a gigantic soil survey effort, practical steps to conserve soil are being taken, such as the terracing of 8,500,000 acres during the winter and spring of 1957-58. Also, technical papers on various aspects of soil science are making their appearance in Chinese journals.

China's rainfall is, on the whole, poorly distributed through the seasons. Thus two things have been characteristic of China: the terraced rice fields of the South, many of which remain flooded throughout the year to preserve precious supplies of water; and the floods that have plagued the country and in particular the Yellow River Valley and associated areas of the North.

It is claimed that the total area of irrigated land has increased from 39,822,000 acres in 1949 to approximately 168,000,000 acres in 1959. It is evident that many large, medium, and small-scale water storage facilities have been built, and that irrigation facilities have been greatly extended. There is some indication that the development of irrigation facilities did not keep pace with water storage construction, but if the available figures are accurate, the proportion of the cultivated area under irrigation has increased from 16.3 to more than 60 per cent in ten years.

The communist regime estimates that China has more than 247 million acres of virgin soil, of which about 86 million could be cultivated at a comparatively low capital cost. It is claimed that 9,880,000 acres of this land were plowed during the First Five-Year Plan, mostly in Kirin, Heilungkiang, Kansu, Liaoning, and Hupeh Provinces, Inner Mongolia, and the Sinkiang-Uigur Autonomous Region. There are also reports of the establishment of areas of grass cover. Much of the reclamation effort seems to be devoted to afforestation, however, in an effort to meet the demand for timber.

Woodlands occupy a little under 8 per cent of the land area of China, compared with 33.9 per cent in the U.S.S.R., 32.8 per cent in the United States, and 21.6 per cent in India. An inventory of forest resources is under way. Between 1954 and 1958 it is reported that about 49,650,000 acres were surveyed by ground methods and about 47,000,000 acres by air. It is also reported that some 9,780,000 acres were planted to trees in 1957. The plan is to increase the area in forests to about 2.6 times its present size by 1967.

Although China is the birthplace of paper, the industry is backward and suffers from a shortage of raw materials. In 1957 about 70 per cent of the raw materials were from annual plants. Sugar-cane press and rice straw were used extensively. Tree branches and tops accounted for about 41 per cent of the 30 per cent of the raw materials that came from trees.

The struggle to maintain a moderate level of fertility in soils that have been cropped year after year, century after century, is not new to present-day China. For centuries both animal and human wastes have been carefully collected and returned to the land. But with a rising population bringing ever increasing pressure for increases in food production, the communist government has placed great emphasis on the production of both chemical and organic fertilizers. It is reported that some 2,500,000 tons of chemical fertilizers have been used annually in recent years. Large modern plants produced 1,333,000 tons in 1959, and much of the remainder was imported. Also, many small fertilizer plants built in the communes, mostly during 1958 and 1959, produce certain amounts of chemical fertilizers. Most of these fertilizers, however, are of low grade and only one-tenth to one-twentieth as effective as those produced in large modern plants. An annual target of 35.8 million tons of fertilizer production has been set for 1962.

Much attention has also been given to the preparation of compost fertilizers made from various materials including vegetable refuse, human and animal manures, ashes, bones, feathers, furs, industrial wastes, and mud taken from the bottoms of lakes and rivers. The recent impetus to swine raising, and to sheep raising in the Moslem areas, has been in part because of the value placed on the manure from these species.

An effort is now being made to transform the small native-method fertilizer plants into small modern-method plants. A synthetic ammonia plant with an annual output of 800 tons, or enough to meet the needs of about 33,000 acres of land, which can be built by a commune in four to six months, has been designed and is being constructed at least in some areas. The cost of production is reported, however, to be about $163 a ton compared with $74 to $82 in large plants.

Research is being conducted on problems of both fertilizer manufacturing and fertilizer use, but little information is available as to the results thus far obtained.

CHINA HAS A WIDE VARIETY of climatic conditions. Consequently many kinds of plants thrive and are utilized for food production and other agricultural purposes. Even so, except for work on basic food plants such as rice, relatively little had been done prior to 1950 to evaluate the agricultural plant resources of the country and to undertake intensive research programs for their improvement. It is claimed that during the last ten years more than 180,000 varieties of seeds have been collected from various parts of the country for research purposes, and that from among these, 1,200 varieties have been selected for multiplication. It is also reported that approximately 60 per cent of these selected varieties were developed by farmers. In addition to selections within the country, more than 70 improved varieties of cotton, sugar beets, sunflowers, and other plants were introduced from the U.S.S.R., Poland, and Hungary up to the end of 1959.

It is claimed that 300,000,000 acres were planted to seed from improved varieties in 1958, or 75.8 per cent of the total area seeded. This statistical figure is open to question, since, if translated into total cultivated area, the result is 395,778,300 acres. Earlier, reference was made to 168,000,000 acres or 60 per cent of the cultivated area being under irrigation. This translates into a total cultivated area of 280,000,000 acres. FAO, in its 1960 Production Yearbook, gives the arable land as 270,233,575 acres (109,354,000 hectares). The figure derived from the area under irrigation seems reasonable in relation to the FAO figure, since some new land has been brought under cultivation, but the claim regarding the area planted to improved seed appears to be substantially inflated. If, however, it repeats twice or three times those areas that are seeded two or three times a year, it may be accurate.

In addition to research aimed at the development of improved varieties, botanical research is being undertaken to evaluate the plant resources of the country.

Lysenko and Michurin have had their share of attention in Communist China, at least to the extent that the recent views of agricultural progress over the past decade included one on Michurin genetics. The claims in this review are hardly convincing; just how far the followers of these men have influenced plant breeding work in China is not clear.

Dense planting and deep plowing were adopted as guiding principles for plant cultivation in Communist China. Deep plowing, to a depth of 25 to 72 centimeters depending upon the nature of the soil, was to be repeated at intervals of three years. It is estimated that more than 133,000,000 acres had been deep-plowed by the end of 1958. There are recent indications that the policy may be changing since it seems to be recognized that these techniques aid agricultural production only under certain conditions and that overemphasizing them may produce negative results.

In an effort to boost rice production, an attempt has been made to extend the area growing two rice crops a year. It is reported that in Szechwan, for example, the area was increased from 13,000 acres in 1955 to 750,000 acres in 1956 and to 1,495,000 acres in 1957. The results with the second or late crop were not entirely successful, however. Yields were low because there are few late-crop varieties and most of them are of poor quality and the grain tends to shatter easily. Also, difficulty was experienced in getting the first crop out of the field and the second crop planted in time to ensure ripening.

PLANT PROTECTION activities have been aimed at the control of insects and diseases, birds, rats and other destructive animals, and weeds. Both modern chemical pesticides and native drugs have been used. In addition to substantial amounts of some 30 modern chemical pesticides such as hexachlordane and DDT, it is claimed that over 500 varieties of native plants and minerals have been used in the making of new drugs for plant disease and pest control, and that about 17,000,000 tons of these native drugs were used in 1958. The efficacy of 312 indigenous medicines has been measured against pests of wheat, cotton, potatoes, and rice, of which 10 are reported to be very effective for the protection of wheat, 20 for potatoes, and 2 for cotton. It is claimed that rust of wheat has virtually been eliminated by the use of native drugs and the popularization of rust-resistant varieties; also that the two other principal diseases of wheat, mildew and smut, are under control.

The Draft Program for Agricultural Development for 1956-57 had as one of its major points the wiping out wherever possible of the "four evils"—rats, sparrows, flies, and mosquitoes. Later, it was decided that too much progress had been made in killing sparrows, which themselves destroyed insects, so they were replaced in the list of four evils by bedbugs. Some difficulties were reported recently in the weed control campaign because of the weather and the diversion of too much of the labor force to other things. Lack of enthusiasm has also been mentioned in the communist press as a factor.

Research workers in northern China are giving some attention to field rats, moles, and other injurious wild animals to discover their habits and to develop methods of control.

Much effort has been devoted to the improvement of tools and implements and to the mechanization of agriculture. Agricultural workers have been encouraged to suggest new designs for tools and implements, and experiment stations have also worked on this problem. It is claimed that about 10,000 different kinds of tools and implements have been developed for use in various farm operations; that more than 2,000 kinds of rice transplanters, some operated by hand, some animal-drawn, and some machine-powered, have been devised. Just how many of these are really effective is not known, but it is reported that by the middle of 1960 approximately one million rice transplanters had been distributed, that they would replace hand transplanting on 70 per cent of the country's paddy fields in 1960, and that a saving of 300,000,000 man-days during the year would result.

Mechanized farming is now said to be practiced on about 4 per cent of the cultivated land, although one published report claims 15 per cent. In spite of slow progress to date, the communist regime plans to move ahead with mechanization and has announced its intention to mechanize all land that can be plowed, or irrigated by machine, by 1969.

ALTHOUGH CHINA IS NOT USUALLY THOUGHT OF as a livestock country, there is a large livestock population even in the densely-populated intensive-farming areas. Also, about 40 per cent of the total area of the country is grassland, occupied by Mongols, Tibetans, Kazakhs, Tadjiks, and other minority groups who devote much of their time to livestock raising. The government's policy is to bring about increases in livestock numbers. Increases have been reported for horses, mules, cattle, sheep and goats, and pigs, while donkeys decreased in numbers. Swine and sheep

are receiving the most attention, swine in the intensive farming areas and sheep in the Moslem areas. Political domination of science and agriculture may be illustrated by the requirements for managers of swine farms. In descending order of importance, these are: (1) clear political direction, (2) a high degree of "activism" for swine raising, and (3) having a certain amount of experience in swine production.

If the numbers of livestock are to be maintained at a higher level, the most difficult problem is that of feed supply. China does not have a supply of grain specifically for livestock feeding such as is provided by the Corn Belt in the United States. Neither has there been a tradition of storing hay for winter use in the grasslands, and the science of range management has been practically unknown. Efforts are being made to improve livestock feeding. Up to the end of 1958 the chemical composition of 1,032 kinds of feed from different parts of the country had been determined. Of these 581 are green feeds that grow wild and have a fairly high nutritive value. Efforts are being made to extend the use of some of them. Chlorella, an alga, is receiving much attention as a feed particularly for pigs, and the claims regarding the amounts harvested from a given area of water and the numbers of animals that can be fed therefrom are so exceptional that they will bear careful checking. Official action has been taken, however, to encourage the widespread growing of chlorella and it is now said to be growing in more than half the provinces and autonomous regions in the country. Its use for human food is also being encouraged. At elevations above 3,000 meters some experimental reseeding of grasslands is reported to be under way.

Traditional veterinarians have been practicing in the villages for centuries, using native prescriptions and methods, including acupuncture, which have been handed down from father to son. The communist regime issued a directive in January 1956 urging the native and modern veterinarians to unite and to exchange knowledge. The modern veterinarians are not only producing modern vaccines but are also carrying out research in this and other fields. In the attempt to combine the old and the new, it appears that to a considerable degree the work of diagnosis is left to the modern and the task of treatment largely to the native veterinarians.

China has been known for its silk for many centuries, and since silk production remains important in the national economy, efforts are being made to increase the growing of silkworms and the plants on which they feed. More than 260 varieties of mulberry trees have been collected for selection and multiplication, while 287 breeds of silkworms are being used in improvement work. Research is under way on methods of controlling pests and diseases of both the silkworms and the trees from which they receive their food. A silkworm that feeds on the castor-oil plant has been introduced from India and is being studied and promoted. Silkworms that feed on oak leaves are also responsible for a substantial share of the production, and increased production from this type is being encouraged.

Another domesticated insect, the honey bee, is also receiving attention, both because of the value of the honey, some of which is exported, and for crop pollination. Both foreign and native types of bees are used. One of the problems is that some of the honey is too dark and too high in water content to meet international standards.

The frequent occurrence of floods and droughts in China has led the communist regime to give increasing attention to agricultural meteorological research. Studies have been conducted on the effects of climate on the growth of rice, wheat, cotton, soybeans, corn, rapeseed, fruits, vegetables, and other principal crops; on the relationship of cultivation practices to climatic conditions; on measures for the reduction of forest fires; on improving weather forecasting; and on the development of a simplified, low-cost meteorological apparatus for use on farms.

Although little that is new in agricultural science has been produced under the communist regime, major steps have been taken to train a more adequate supply of agricultural scientists and to build up the research institutes and experiment stations that are required if the agriculture of the country is to be modernized and new problems are to be met as they emerge. The adequacy of the institutes and stations and their staffs is not clearly evident, although the numbers of both institutions and staff members appear to be substantial. With few well trained agricultural scientists at the outset, it seems probable that the government has had to depend upon crash training programs, supplemented by some training in other communist countries, where the language barrier had to be overcome. Hence the workers now available may have training that is, on the average, below western standards. There are 29 agricultural colleges in the country, however, and other institutions are training students who can serve as assistants. A recent report indicates that about 3,100 to 3,500 students of agriculture are graduating each year from institutions of higher learning. Thus the corps of agricultural scientists is being strengthened.

The Chinese Academy of Agricultural Science, under the Ministry of Agriculture, is the focal point for the development and coordination of agricultural research. Policy making and the control of research operations are highly centralized, and quite a few of the research institutes have been set up in Peking. Several, however, have been located in the primary producing areas of the crops or livestock with which they deal. Specialized research institutes have either been established or are planned by the Academy for practically every major crop or group of crops and for the major types of livestock. The Academy also has six regional institutes, and it coordinates research in the agricultural colleges and in a number of provincial institutes that are under its immediate direction. The Chinese Academy of Sciences also has within its program some agricultural research over which the Academy of Agricultural Science has a coordinating role. Most provinces and autonomous regions have their own agricultural research establishments. Hsien, municipalities, and communes have also set up research and experimental facilities, which further extend the organizational network for agricultural research.

THE CHINESE COMMUNISTS have made bedfellows of the old and the new, and of folklore and the findings of the laboratory, in the development of agricultural science, as has already been pointed out in regard to plant protection and veterinary medicine. Also, scientists have gone to the villages to learn of ways and problems of farmers and of their common beliefs. Farmers in the communes are encouraged to participate in experimentation and in other activities such as the selection of high-producing varieties and the design of improved tools and implements. Thus, the scientists are brought close to the masses and the masses are encouraged to participate in science.

The leaders apparently recognize that it will take a long time to develop and apply modern agricultural science in China; in the meantime they appear determined to use any native methods that are apt to be useful in increasing production, while at the same time moving ahead as rapidly as they can in the development of scientific agricultural research and its application.

In their efforts to push ahead with the application of modern methods, the Chinese Communists have made some mistakes, either because of inadequate knowledge or because of a tendency to plunge into a campaign for a particular technique without considering all the consequences, and in some cases they have had to change direction. Examples are the difficulties with weed control and the apparent killing of too many sparrows, already mentioned, the ill-fated attempt to build and distribute a Russian-type plow that was not adapted to Chinese conditions, the building of many small fertilizer plants the output of which was very inferior in quality, the attempt to replace these fertilizer plants with small synthetic ammonia plants in which the cost of production is at least double that in larger plants, the overemphasis on deep plowing and dense planting, the attempt to use only the best land and let poorer land lie fallow, the effort to increase the two-crop rice area quickly without adequate late varieties or programming of the planting and harvesting of the early crop to accommodate a second crop, and the general policy of first priority for industrialization, which recently had to be altered in favor of food production.

The U.S.S.R. has exerted substantial influence on the development of agriculture and of agricultural science in Communist China. In addition to the technical and material assistance given since the new regime came to power in China, Russian scientists and economists have prepared at least two substantial volumes for publication in their own country, one on soils and the natural environment and one on the economy of China.

China is in urgent need of increases in agricultural production to meet the food requirements of a rapidly expanding population and the needs of developing industries, and as a means of securing foreign exchange through export. It seems certain, therefore, that the communist leaders will continue to emphasize agricultural research and the early application of useful results. In view of the steps already taken to build up facilities and train personnel for research, it seems equally certain that the flow of research results in Communist China will increase markedly in the years ahead. These results may be expected to relate primarily to the solution of the immediate problems of production.

MULTILATERAL PROTECTION OF FOREIGN INVESTMENT

A PRAGMATIC APPROACH

PAUL R. PORTER

THE ABSENCE OF GENERALLY ACCEPTED ground rules for private foreign investment is a major deterrent to the flow of capital from industrially advanced nations to emergent nations.

Both investors and host nations eye each other warily. Investors fear discrimination against foreign capital, restrictions on the repayment of loans and the export of profits, and expropriation without compensation. Governments of many nations needy of outside capital fear that foreign corporations may come to play too large a role in the national economy, overwhelm local business firms, distort the nation's planned development, and by the export of profits drain scarce reserves of foreign exchange.

Host governments have an inherent advantage. They can establish rules unilaterally. Since the rules can also be changed unilaterally, and frequently are, investors feel the need for assurance, given in bilateral or multilateral treaties between governments, that an investment made under one set of rules will not be damaged by arbitrary change. At present, however, there is not a consensus among the principal capital-exporting nations on what to propose to the capital-importing nations.

An international private investment code is favored in Europe. As put forward by its principal German and British sponsors, governments of both capital-exporting and capital-importing nations would be invited to adhere to a convention incorporating three basic principles: that governments should carry out their specific engagements; that there should be no discrimination against foreign investors; and that any expropriation should be accompanied by prompt, adequate, and effective compensation.

Either party to a dispute arising from the convention would have the right to submit the dispute to the International Court of Justice. A party, in this context, means an adhering government. An optional arrangement would allow an aggrieved private investor, with the consent of his government and the government against which he has made a complaint, to submit the dispute to an arbitration tribunal. Finally, if a government failed to comply with the terms of a judgment of the International Court or an award of the arbitration tribunal, other governments adhering to the convention would be "entitled, individually or collectively, to take such measures as are strictly required to give effect to that judgment or award."

The proposed convention in its present form is a consolidation of two earlier drafts, one prepared by Dr. Hermann J. Abs, chairman of the Deutsche Bank, and the other by a group of British and Continental lawyers headed by Lord Shawcross, former British Attorney General. It has been submitted by the Federal Republic of Germany to the Organization for European Economic Cooperation (OEEC), about to be reconstituted as the Organization for Economic Cooperation and Development. A similar proposal has been submitted by the Swiss Government.

In less precise form, a "world investment convention" has been proposed by the British Parliamentary Group for

World Government, composed of members of the Conservative, Labor, and Liberal parties. The proposals of this group are more sensitive than the Abs/Shawcross draft convention to the apprehensions of the underdeveloped countries. In preparing its report the Parliamentary Group solicited the informal views of officials of the Governments of India, Indonesia, Ghana, and Bolivia.

A third significant European proposal is one advanced in September 1959 by the Consultative Assembly of the Council of Europe for a conference of European and African states to prepare an investment statute and guarantee fund in the context of the development of Africa.

The public interest in the creation of conditions more favorable to private investment in the emergent nations was well stated by Lord Shawcross in an address to the Société Royale d'Economie Politique de Belgique in Brussels, December 14, 1959. He said:

"In the field of multilateral finance the continued activities of the World Bank, the International Finance Corporation, the proposed International Development Association, and other such organizations, in providing finance to the low income and underdeveloped countries will remain, as they have been, of incalculable advantage to the free world. This form of multilateral aid is deserving of the fullest support by Governments and industry: it will meet needs, particularly in regard to what is, I believe, called the infrastructure nowadays, which can never be wholly satisfied by private enterprise.

"But these official loans and grants which are already a significant burden on the budgets of the contributing countries—since 1945 the various foreign aid programmes of the United States have cost each adult about $675—can never be sufficient to cover all the investment required, or indeed be available for some of the projects which ought to be financed. Much must come from private sources. And this must also be remembered. The need of the underdeveloped countries is not simply for monetary aid but for a combination of monetary capital, capital goods and, in particular, the technical and administrative skills which are their essential complement. The shortage of experienced administrators of itself imposes a limit to the volume of official economic aid that can be absorbed for the more essential and appropriate productive enterprises. Without these complementary factors, much of the aid which these underdeveloped territories receive can be rendered sterile or may be dissipated in correcting current foreign exchange deficiencies. The burden of loan repayment and interest could then easily mount faster than the country's ability, through increased production, to pay for it. In these circumstances, to adopt any policy of priority for official loans over direct investment, on the assumption that they are substitutes for private enterprise, is quite unrealistic."

THE SEVERAL EUROPEAN PROPOSALS have not received wide support in the United States. Published comment has come mainly from scholars of international law, has been directed to the Abs/Shawcross draft convention, and has been sharply critical. The Journal of Public Law, Vol. 9, No. 1 (1960), presents a case against the draft convention in articles by Professor Stanley D. Metzger of the Georgetown University Law Center, Professor Arthur Larson, director of the World Rule of Law Center, Duke University Law School, and Professor Richard N. Gardner of the Columbia University Law School.

Professor Metzger, a former assistant legal adviser in the State Department, is the most comprehensive in his criticism. Like the others he regards the draft convention as onesided and hence doomed to rejection by governments of the emergent nations. He also argues that the draft convention would be more far-reaching in measures intended to protect private investment abroad than any now accepted in international law, in domestic law of most countries, including the United States, or in existing bilateral treaties such as the friendship, commerce, and navigation treaties which the United States has entered into with 19 foreign nations. He contends that "neither the United States nor any other country will be prepared to commit itself to observe its private contracts with a foreign national 'at all times.' "

Noting failures of previous attempts to create an international investment code, including efforts of the League of Nations and the International Chamber of Commerce, he concludes that a multilateral approach is futile. He quotes approvingly a 1959 statement of the State Department: "Multilateral negotiations have been found to produce unsatisfactory results . . . Bilateral negotiations, during which adjustments can be made to take care of individual differences, may be expected to produce the best results as far as United States interests are concerned."

Professor Metzger suggests that nations wishing to afford protection to the foreign investments of their nationals should follow the pattern of the U. S. investment guaranty program. Since this program was inaugurated in 1948 as a by-product of the Marshall Plan the U. S. Government has negotiated bilateral agreements with 49 nations for protection against one or more of three principal risks: inconvertibility of earnings, expropriation, and loss in war. Protection is afforded on an insurance basis. U. S. investors making a new investment in a nation which is a party to one of these bilateral agreements may insure the investment and anticipated earnings against the risk or risks provided for up to twice the amount invested. Anticipated license income may also be insured. The premium for each covered risk is ½ per cent per annum of the insured amount. The U. S. Government is the insurer. If and when the U. S. Government has occasion to compensate an insured investor (which has not yet occurred), the government of the nation in which the loss occurred is committed to negotiate a settlement of the claim with the U. S. Government. Arbitration is a last resort.

Under this program, the International Cooperation Administration as the administering agency has entered into 415 guaranty contracts with 170 U. S. companies for a total guaranty liability of $443,800,000 on December 31. Pending applications amount to an additional $2 billion. The number of new applications has sharply increased in the past six months, no doubt influenced by events in Cuba and the Congo. (Responsibility for the foregoing information on the guaranty program is mine, not Professor Metzger's.)

The American critics of the Abs/Shawcross proposal who oppose it because of its multilateral character appear to overlook legitimate European concerns and the essential role of European private capital in the immense task of assisting emergent nations to achieve their take-off.

Only in recent years have the major nations of Western Europe been able to resume their role of capital export. It is a role which should be welcomed by all who are responsive to the urgent needs of the fast growing populations of Latin Ameirca, Africa, and Asia. If more European public capital is needed for these huge requirements, and also for some relief of the strain on our balance of payments, the same need extends to European private capital.

It is unlikely that European capital will flow to the underdeveloped nations in large volume without protection to investors comparable to that which the United

States has secured for its nationals through the network of bilateral treaties. It may be said: Let the Governments of the United Kingdom, France, Germany, Italy, Belgium, The Netherlands, Switzerland, Sweden, and Japan, each negotiate its own network of bilateral agreements. On a small scale Japan and Germany have recently begun to follow the American pattern. But merely to enumerate each of the nations that are potentially exporters of capital should suffice to show the impracticality of the bilateral approach if generally undertaken. Allow the doubtful premise that diplomatic resources and energy are freely expendable; look then at the political and negotiating burden thrown upon the governments of the emergent nations if confronted with requests from nearly a dozen nations for bilateral agreements to protect foreign investments. The situation would surely dissipate more order than it would create.

Investment capital is less tidily wrapped in national packages than the bilateralists suppose. If private capital is to finance projects of large magnitude there must be more recourse to consortium financing similar to the Fria project for production of alumina in Guinea, for which capital has come from the Olin Mathieson Chemical Corporation and French, German, British, and Swiss aluminum companies. Moreover, a significant proportion of American-owned capital invested abroad today consists of unrepatriated earnings of subsidiaries of U. S. companies chartered in other countries.

The view of the State Department concerning the Abs/Shawcross proposal was solicited by the OEEC since the U. S. participates in that body as an influential observer and will be a full member of the successor Organization for Economic Cooperation and Development when it comes into being, as now expected, next September. The reaction was cool. The State Department made no known effort to ascertain the views of American foreign investors before expressing a negative attitude.

None of the European proposals in their present form has received strong support in the U. S. business community, which appears generally to regard the investment guaranty approach as a more effective protection. If the State Department had consulted investors, however, it could have found growing support for the multilateral concept. It is significant that at a recent conference of representatives of 21 U. S. corporations with large foreign holdings who considered the Abs/Shawcross draft and the ideas discussed later in this article, there was a unanimous opinion that the well-regarded ICA guaranty program should be supplemented by multilateral action.

TWO WIDELY RESPECTED STUDENTS of international investment, Mr. August Maffry and Mr. Ralph Straus, have recently proposed in private memoranda creation of an Investment Guaranty Corporation as an affiliate of the International Bank for Reconstruction and Development whose membership would be open to members of the Bank and which would be empowered to enter into guaranty contracts with private investors who are nationals of member governments. The guaranty contracts would apply to new investments in the form of equity or debt against the risks of inconvertibility, uncompensated expropriation, and loss from war or civil commotion. Capital of the corporation would be subscribed by all member governments on the basis of a formula similar to that used in setting up the International Finance Corporation. A small part of the subscribed capital, say 1 per cent, would be payable in cash to provide initial operating funds and funds to meet any (unlikely) early claims. The remainder would be subject to call to meet duly validated claims of investors. Reserves would be accrued from premiums paid by investors. The corporation would be empowered to enter into agreements with member governments whereby insured investors' claims would be subrogated to the corporation.

Independently of the Maffry/Straus proposal, which was brought to my attention when I circulated a first draft of this article for comment, I have suggested a somewhat broader multilateral undertaking which would incorporate an international guaranty program. I had envisaged the International Finance Corporation, in an enlarged role, as the administering agency, but whether it or a new affiliate of the IBRD should be used for this purpose is a minor point.

A more important difference is that, in my proposal, the administering agency would also have a responsibility for promoting and developing improved international investment practices. Its mandate would be to help create a more favorable international investment climate both by formal agreement where feasible and by informal acceptance of practices which, though important to mutual confidence, cannot be standardized in an international agreement. Beyond guaranties and beyond rules there is need for wise and creative supranational leadership as initiator, mediator, and counselor.

The World Bank (to use its meaningful informal title) possesses a great intangible asset: the esteem it has won among both capital-exporting and capital-importing nations, an esteem that should be employed, through an appropriate affiliate, to create a greater degree of order in international private investment comparable to the pervasive influence now exercised by its sister institution, the International Monetary Fund, on monetary and fiscal policies.

In this undertaking a place should be found for frequent and extensive consultation with private investors from all member nations as directly affected parties akin to the contribution of employers and labor representatives to the work of the International Labor Organization. The consultation should have reciprocal benefits. It is not only from governments that changes are needed. Many investors are inadequately aware of the impact of outside capital on the national economy of host nations. Consider, for example, the issue of local capital participation in major ventures, a sensitive one even in such industrially advanced nations as the United Kingdom and Canada. Probably we Americans would be unhappy if most of our steel industry or public utilities were foreign-owned. The restrictions now applied by many governments on the percentage of foreign capital in industrial enterprises and on the employment of foreign nationals will surely increase unless more foreign investors voluntarily introduce local participation.

Among investors from capital-importing nations who should be consulted on changes in investment practices are local industrial development corporations, where they exist. Such corporations have a potentially valuable role in linking public investment with domestic and foreign capital.

One appropriate area for multilateral action, not contemplated in either the Abs/Shawcross or Maffry/Straus proposal, is that of developing a greater degree of order in practices relating to double taxation. As long as the

practice continues of taxing the same income twice—once by the government of the territory in which it is earned and again by the government of the territory in which the investor is domiciled—a maze of complications will persist, the effect of which is an undoubted deterrent to international investment. Realistically, only modest progress toward order can be anticipated since the sovereignty expressed in the tax prerogative is zealously guarded by the national legislatures of all democratic countries, including the United States of America.

One should not minimize the accomplishments of bilateral treaties in enabling investors, when paying taxes on repatriated income, to deduct or receive credit for taxes paid at source. The U. S. has negotiated double-taxation treaties with 21 nations, of which five await ratification by the Senate. A multilateral agreement should facilitate extension of this practice to a broader number of countries and, hopefully, would establish a foundation for improvements in international tax practices in the future.

A multilateral agreement should incorporate the principle that there should be no tax discrimination against foreign investors. But if a host government chooses to spare some taxes as an investment incentive, the government of the capital-exporting nation should permit the tax saving to be realized by the investor. This principle has been incorporated in the recent tax treaty negotiated between the United States and India, which now awaits Senate ratification. Present tax laws in the U. S. effectively discourage income tax incentives by nations needy of capital, since a tax concession would now merely result in a transfer of tax revenue from the poorer to the wealthier nation.

THE FIRST TASK in creating a favorable international investment climate that will stimulate a greater flow of private capital to emergent nations is, as Professor Gardner has observed, to develop a consensus on what needs to be done and how to do it. The American bilateralism that served reasonably well when we were the only significant exporter of capital and that remains our official policy cannot be effectively duplicated by Western Europe and Japan. The Maffry/Straus proposal for a multilateral guaranty fund is a constructive one, but it leaves other important needs unmet. For example, it applies only to new investment. It is not realistic to suppose that it could be extended to existing investment.

A debt is owed to Dr. Abs, Lord Shawcross, the British Parliamentary Group, and other Europeans for having perceived that a multilateral approach is the only realistic course, even though their specific proposals may have serious defects, as I believe they do. The principal weakness of the several European proposals, like the various earlier attempts, is that they are directed toward an early creation of new international law. The idea of extending the scope of international law is an appealing one, but the timeliness of attempting it in an area so touchy as private investment is doubtful.

This point was underscored in the recent debates in the Sixth Committee (Legal) of the UN General Assembly. A widely held view was expressed by the Mexican representative, Señor Castaneda: nearly half of the nations represented in the United Nations have come into being since the main body of international law was formulated; they question their obligation to be bound by rules which they had not helped to create. In this atmosphere it seems unwise to inject a proposal so controversial as arbitration between a government and a foreign national or other measures that abrade the tender spots of newly asserted sovereignty.

A convention or a code keyed to an affirmation of rights is, in my opinion, neither a promising approach nor a sufficient one in its objectives. The benefits should appeal to the company treasurer as well as the legal counsel: a solid, contractual guaranty (for new investment) covering the more important noncommercial risks plus full credit for taxes paid at source and for taxes which a host country may spare. These could be the initial tangible benefits of multilateral agreement, a beachhead of mutual understanding. Beyond, to be attempted through the good offices of a supranational banking institution, is the objective of cultivating in host nations a condition known as credit standing, which is more subtle, more immediately practical, and less demanding of sovereignty than the creation of new international law.

As Lord Shawcross himself observed in his Brussels address, order historically precedes law. In this time of history the most hopeful course, the prospective basis for a consensus, appears to lie in the progressive extension of pragmatic order.

FISH CULTURE IN CENTRAL AMERICA

TEN YEARS' EXPERIENCE AS A FIELD EXPERT

S. YEN LIN

IN 1950, THE YEAR WHEN THE UNITED NATIONS technical assistance program was effectively organized, the writer was sent to Haiti by the Food and Agriculture Organization (FAO) as an inland fisheries expert to advise and assist the government in carrying out a fish-culture project. This had been recommended by Professor E. F. Thompson in 1948 while he was a member of the United Nations Mission to Haiti. In view of the very limited resources of the country, Professor Thompson visualized the practice of fish culture in ponds as a way to produce more protein food to improve the diet of the population, the majority of whom depended almost entirely on corn, rice, and some tropical fruits; but he suggested no detailed program for the project.

Work in Haiti 1950-1953

ON MY ARRIVAL IN HAITI in June 1950 I began at once studying socio-economic conditions and the inland fisheries resources from the standpoint of the practicability of fish culture in the Haitian environment.

The first problem was to determine the types of fish suitable for culture in Haiti, and the second how fish culture techniques could be established and extended to the people. Since there proved to be no native fish that would be good eating and grow big enough and fast enough to fit the demands of pond culture, the introduction of foreign species had to be considered. Finally two species, carp (*Cyprinus carpio*) and *Tilapia mossambica*, were selected for introduction. Nursery ponds were then established with government funds for propagation and culture experiments with the introduced fish. A fisheries section was organized in the Ministry of Agriculture and two fisheries officers were appointed to be in charge of the project.

Since they naturally had no knowledge of or experience in fisheries work prior to my arrival, their training had to start from the beginning, based at every step on the principle of learning by doing. Every detail of the plan and program of work was explained and discussed with them, so that they were fully informed of what they should do and what I was doing and planned to do, and they were given ample opportunity to observe. This of course is essential if the local personnel are to learn not only the basic principles but the actual practice of fish culture. To broaden their practical knowledge, one of the officers was granted an FAO fellowship to study in Indonesia for six months in 1952 and the other to study in Brazil and Surinam for three months in 1953. After their return to Haiti I left to take up a similar assignment in the Dominican Republic.

With the assistance and advice of myself and another FAO expert, Mr. Shimon Tal, of Israel, during the four years of our stay in Haiti, a hatchery with 10 propagation and experimental ponds was established; two one-hectare demonstration ponds were constructed in the Valley of Artibonite; about 20 farmers built ponds of various sizes on their own property to cultivate carp and Tilapia; and carp and Tilapia were released in the annually flooded lowlands and rice fields. As a result of the latter practice especially, fish production was tremendously increased within two years. Today every family in the Artibonite Valley has fish available daily for meals, and on market days heaps of fish, fresh and salted, are exhibited for sale.

Dominican Republic 1953-54

BEING ON THE SAME ISLAND, the Dominican Republic and Haiti have similar climatic and physical settings. The flat land and valleys with rich soil are devoted to sugar cane, banana, corn, and rice plantations and pasture. In the Dominican Republic a good irrigation system has been established in many areas. Among the fields of various crops, land with impermeable heavy clay soil suitable for pond construction is plentiful. Such physical conditions, combined with a need for fish production to supplement the protein diet of the people, are favorable for fish-culture development.

In the Dominican Republic I recommended the establishment of a fish-culture experiment station as a first step. The government appointed two officers as my counterparts, made funds available for the work, and allocated land and machinery to start construction of ponds, buildings, laboratory, and store rooms. The ponds, covering a total area of five hectares, were designed for use in propagation, experiments, and demonstration of the culture of carp, Tilapia, large-mouth bass and other species of fish. The carp and Tilapia were imported from Haiti and the large-mouth bass were collected from a large river into which they had been introduced from the USA and successfully established several years before 1954.

The work of construction to establish the fish-culture experiment station took almost a year though some of the ponds were finished earlier and used for carp cultivation and propagation. The government then decided that the local officers could continue the project without further technical assistance from FAO. After I left, the local fisheries officers continued to carry on the project according to the original plan. During the past six years they have occasionally communicated with me on technical problems.

Central American Group Country Project

IN MAY 1954 I LEFT THE DOMINICAN REPUBLIC to take up a new assignment on a group country project in Central America, which insofar as my field of activities is concerned includes Honduras, Guatemala, El Salvador, and Nicaragua. In this region I have worked for six years and am now working. The inland fisheries project is of considerable magnitude and complexity. It involves a long series of efforts and activities—such as careful, continuous study of resources, experiments in fish culture and fishing, and research on fish handling, processing, and marketing—before any considerable increase in production can be expected.

During these six years the governments of Honduras, Guatemala, and El Salvador have each established an inland fisheries research station with a laboratory and a number of ponds for propagation and culture experiments. Six species of fish were selected for domestication: guapote (*Cichlasoma managuense* and *C. dovii*), mojarra (*Cichlasoma guttulatum*), *Tilapia mossambica*, carp (*Cyprinus carpio*), and largemouth bass (*Micropterus salmoides*). Many farmers, with my technical advice and that of the local officers I trained, have built ponds of various sizes in different parts of the countries and stocked them with various types of fish fingerlings available from the fish-culture stations. Some of the fish farms in Honduras and Guatemala are capable of producing several hundred pounds of fish a week. A farmer in Guatemala, who built five ponds covering a total area of 1.5 hectares in 1958 and 1959 for carp culture trials and found carp farming a profitable business, plans to enlarge his operations to 50 hectares of ponds or more in the next few years.

The background and the basic achievements in each Central American country where I was assigned to work may be briefly described as follows:

Honduras 1954-58

EIGHTY PER CENT OF THE TERRITORY of the Republic of Honduras consists of mountains on which pine forest is the chief natural resource. The richest valleys of the Atlantic coast are devoted to banana plantations, cattle, rice, and corn. In the Department of Olando and in the Cholutica valley cattle raising is fairly extensive, but in most parts of the country the people have to depend almost entirely on corn and beans for food. Although Honduras has an extensive Atlantic coastline and a good harbor on the Pacific, sea fisheries have not been developed. The people who live in the highland regions are very short of animal protein, and for this reason it is considered a profitable move to introduce the new practice of fish farming to the mountainous areas.

EDITOR'S NOTE: The views expressed in this article are those of the author, and neither his statements of fact nor their interpretation are to be regarded as necessarily reflecting the official views of FAO.

After general study for four months of the fisheries resources and the socio-economic conditions of the country, I recommended a program of fish-culture development to the government. On its acceptance a section of fisheries was organized under the Director General of Livestock, two local fisheries' assistants were appointed, and a small carp culture station was built a few kilometers from the national capital, Tegucigalpa. Owing to the mountainous topography, no government-owned land sufficiently level, large enough in area, and with an adequate water supply could be found for the construction of a standard fish-culture station, but a site was selected for the building of five small ponds, with water supply from a reservoir, to serve for carp propagation. In addition, four other experimental ponds were built in the National Center of Agronomy at Comayagua, 100 km from Tegucigalpa.

All of these experimental ponds were built and completed in 1955. A special breed of mirror carp was introduced from Haiti for propagation in the Tegucigalpa center and a guapote, *Cichlasoma managuense,* from Nicaragua to be propagated in the Comayagua ponds.

From 1956 onward both the Tegucigalpa and the Comayagua center had an abundance of carp and guapote fingerlings for distribution, and many farmers in all parts of the country began to build ponds of various dimensions for carp and guapote culture; a few dams and natural lakes of less than two hectares in area were also stocked with the fingerlings of the two species. One of the most successful producers is a farmer in Sigautepeque who owns a farm of about 50 hectares on the Sigautepeque plateau at 1500 meters altitude. Part of the farmland is used for orchard and part for cattle pasture, but most of it remains idle because of the acid clay soil. With technical advice, the farmer turned about two hectares of the idle land into five fish ponds for the culture of carp as a trial. In 1957 he harvested over 2000 kg of fish for sale varying in weight from 400 to 1500 grams apiece. He plans to build more ponds for carp and other types of fish in the future when a steady market has been established for his product.

Lake Yojoa with an area of 70,000 hectares was stocked with largemouth bass by the United Fruit Company in 1954. The bass flourished so well in the lake that by the end of 1957 a very large population of fish were already available for fishing, making the lake an excellent sport center as well as a good resource for commercial exploitation. To maintain it, however, would require rational management based on research. Since I left at the end of 1958, regular observation and study have been abandoned.

Two Honduran officers were offered scholarships by FAO to attend the second Latin America Fisheries Training Center held in Mexico City from October to December 1954 under the auspice of FAO and the Mexican Government. Again in 1956 a fellowship was granted to a fisheries officer for advanced study of fish culture and fisheries administration in the Alabama Polytechnic Institute, Auburn, Alabama, USA. Unfortunately none of these officers continued to work in fisheries after they had returned to their country.

Guatemala 1954-60

GUATEMALA HAS OVER THREE MILLION PEOPLE, more than 60 per cent being Indians who live in the highland regions. The chief product for export is coffee, amounting roughly to 1.2 million hundredweight a year. The production of corn, beans, and meat is not sufficient for home consumption. Sea fisheries have not yet been developed, and the prospect is slim since there is no natural harbor on the Pacific Coast, and the Caribbean Sea is rather poor in aquatic resources. The government authorities therefore considered inland fisheries development as important for food production and asked FAO for technical assistance.

Upon arriving in 1954 I made a general survey of the inland fisheries resources, paying attention particularly to hydrology, the fauna and flora of the main rivers and lakes, the character of the soil, and the sources of water supply. On the basis of the findings, recommendations were made to the government for the organization of a fish and game section under the Director General of Forestry, the establishment of an inland fisheries research station, the training of local fisheries officers, and the formulation of a policy of management and use of rivers and lakes.

Following these recommendations the government has in the past six years created a section of fish and game; appointed three officers responsible for different aspects of the work; established an inland fisheries research center at Barcena, 18 kilometers from Guatemala City, with 24 experimental ponds finished and ready for use and a laboratory building yet to be equipped; and sent three officers on FAO fellowships to study fish culture abroad—two to attend the FAO Latin American Fisheries Training Center held in Mexico in 1954, and the other to the Alabama Polytechnic Institute at Auburn in 1956. (Again it must be noted regrettably that all three officers resigned for personal reasons after they had returned to their country.) Many lakes were stocked with such fish as largemouth bass, guapote, mojarra, Tilapia, carp, or a combination depending on ecological conditions. No new laws and regulations have yet been recommended for the control of inland fishing because of lack of detailed knowledge, but since at present all the gear used by the fishermen is primitive and inefficient, there is no immediate danger of overfishing. Fishing with dynamite and poisons is strictly prohibited.

Fish culture extension activities have been carried out in several ways—direct advice to farmers by the local fisheries officers and the FAO expert, cooperative work with other organizations (including UNICEF and ICA), and demonstrations at the Barcena station. Many small farm ponds have been constructed all over the country and stocked with fish supplied from Barcena. It will take time and favorable conditions to develop large-scale commercial fish farming, though one such establishment is now in production.

El Salvador 1957-60

EL SALVADOR IS THE SMALLEST, most heavily populated, and most prosperous of the five Central American countries. It leads in coffee, cotton, and industrial production among the five; yet owing to its limited territory, pasture land is scarce and animal production low. In recent years great efforts have been made to produce enough corn, rice, and beans for domestic use, but meat has to be imported in considerable quantity. The continental shelf of the Salvadorean Pacific Coast is rich in shrimp, and when this was recently discovered the number of modern mechanized shrimp boats increased from a few to more than 50 in five years, making shrimp fishing an attractive and prosperous industry. The shrimp is principally for export to earn dollars, however.

Under present conditions more than 90 per cent of the people do not have enough animal protein in their diet. The four principal lakes, though comparatively small,

have been intensively exploited, but there remains a potential market for all kinds and sizes of freshwater fish, crab, and shrimp.

In 1957, after making a general study, I recommended development of fish culture, the improvement of lake fishing by the introduction of modern gear and methods, a better marketing system, and continuous study of the inland resources. A detailed program of work was then drawn up and was closely followed by the government. Through the joint efforts made by FAO and the government in the past three years, a fish culture experiment station with a laboratory, an aquarium, and 15 experimental ponds covering six hectares of water surface area was established in Santa Cruz Porrillo, 68 km from San Salvador, the capital. Twenty more experimental ponds are planned to be built in 1961. The function of this station is to serve as a center for supplying fingerlings to farm ponds, rivers, and lakes; to carry out fish-culture experiments; to demonstrate modern fish culture-methods; to serve as an educational center.

A local officer has been appointed to be responsible for the study and demonstration of inland fishing gear and methods. He is to proceed from one lake to another, instructing the fishermen in fishing and marketing techniques. Limnological and biological study of the lakes by another officer has also been started.

The construction of ponds and buildings at Santa Cruz Porrillo was finished by the end of 1959. Meanwhile, to stock farm ponds, fish fingerlings were obtained from Guatemala and Honduras as well as, later, from the Porrillo station. At the end of 1960 about 40 farm ponds of various dimensions had been constructed and stocked in various parts of the country.

Nicaragua 1959-60

NICARAGUA HAS OVER A MILLION HECTARES of inland water —lakes, rivers, and estuaries—which have a very high potentiality for fish production, and the exploitation of these natural resources would make a basic contribution to the wealth of the country. It is obvious that as long as these natural resources remain to be exploited, the extension of commercial fish culture is unnecessary—contrary to the situation in Honduras, El Salvador, and Guatemala.

It is estimated that Lake Managua alone, with an area of 100,000 hectares, has the potentiality of producing 5 million kilograms of fish a year, all edible and approximately 40 per cent of first quality. If the local fishermen are taught to use modern efficient types of gear and to lightly mechanize their crafts, and if an adequate marketing system is organized and efficiently operated, production of that magnitude could be attained in a short time. But even without such high production, any effort toward improvement could help the fishermen to increase their catch tremendously.

With these facts in mind, I had planned to concentrate my work during the six months of my assignment to Nicaragua (November 1959 to April 1960) on a series of fishing tests in Lake Managua alone with the type of Platil nylon gill nets manufactured in Germany.

Technically the object of the test fishing was to find out the economic value of this type of Platil nylon gill nets, and observations were therefore made essentially on three points: the species, size, and quantity of fish caught in each size of mesh; the catch of different sizes, quantities, and classes of fish made in various lengths of time in different localities and depths of water; and the efficiency and economic value of various depths and lengths of nets and various thicknesses of the twine. In other words, the test was intended to determine what would be the most efficient and profitable size of gill net, mesh dimension, twine thickness, and time of day, locality, and depth of water. The findings would be the basis for recommendations to the fishermen.

Other observations and records were taken of the distribution, sexual maturity, feeding habits, and other aspects of the life history of the important species of fishes.

As the assignment was a short one, I was able to help the local fisheries officers to finish only 28 test fishings. A great deal more remains to be done by the local officers, with further technical assistance from FAO. Besides gill nets, other types of gear should be tried, while fish handling, processing, and marketing need careful attention.

Problems and Difficulties

The original idea of the group country project was based on the theory that since the Isthmus of Central America is a small area geographically, the inland fisheries problems of the five countries are similar; a technical assistance program that works in one country may be applied to the others without much basic change. Hence after the expert has initiated a project in one country he can leave a detailed program for the local officers to follow and go to the next country to start a similar project, working with the local officers for a few months and returning to the first country to check on progress or proceeding to a third country to start a project. In this way one expert can cover two or three countries in the same year, and the same arrangement can be repeated for several years.

The advantages of such an arrangement are obvious, not the least being that the experience gained in one country by the expert sometimes results in great benefit to the other countries. Carp culture in Central America is an example; the results of experiments in one place can be applied immediately in other countries without wasting time repeating the experiments. The possibilities of the guapote, *Cichlasoma dovii,* as a domesticated fish resulted from observations in Nicaragua, and it was subsequently introduced in El Salvador for propagation experiments at the Porrillo station. If this fish reproduces successfully in ponds, its culture may be extended to all Central America.

There are also some disadvantages in the group project method. Perhaps the chief one is that when a government has reached the point of allocating sufficient funds and providing enough facilities to start a program recommended by the expert, it expects that he will be on hand or readily available to give personal supervision, advice, and assistance. This means that he ought to remain in the country for a considerable length of time. But his assignment in that country is limited to a few months, and he must then go on to fulfill his next obligation. Thus it sometimes happens that when the government wants his services and has the necessary funds on hand, he is not available; and when he returns, no important work can be done because the funds and facilities are no longer available.

Other problems are not peculiar to the group project method but apply to technical assistance in general. A major difficulty is the scheduling of projects on a year-to-year basis, so that continuity is uncertain. Another is the short time available for the expert to do the necessary preliminary work. When he first arrives he devotes his time to studying the background of the project, looking up the literature, establishing contacts with individuals and institutions, and making a general survey of socio-economic

conditions and fisheries resources. The three or four months the expert can give to this preliminary phase is not enough to acquire a thorough knowledge of the country—particularly the complex political and human factors that may have a bearing on the technical work.

Another great problem is the instability of governments. Within a single year the head of the department responsible for fisheries may change two or three times, each minister holding different views and setting different policies. This instability applies to others besides ministers. Sometimes the expert patiently trains local fisheries officers and arranges for them to take advanced study abroad, only to find that they soon go into some other kind of work. This means a discouraging loss of time, effort, and money for both the government and the technical assistance agency. There is no choice but to start all over again training new officers.

Extension activities, of course, present another whole series of problems. It is not easy to explain something entirely new to farmers and convince them of its advantages. On the other hand, farmers are always anxious to improve their farms and they may go to the opposite extreme and expect too much of something new. One farmer, for example, wanted a thousand carp to stock a small pool for which ten would be ample. Another with two small lakes of two or three hectares each expected to harvest two or three kilos of fish a day for the market. Farmers with imagination of this kind are usually progressive. With proper advice and guidance they may be highly successful. But this, again, requires qualified local officers to do the job.

On the basis of my own experience, I would say that the success of a technical assistance program depends on—

The technical qualifications of the expert.

His background knowledge of the project, which includes the political, socio-economic, cultural, human, and natural resources of the country.

Sufficient time to acquire that knowledge.

His ability to make recommendations suited to conditions and trends in the country.

Tact and resourcefulness in handling unexpected problems.

The right attitude toward his work and the people of the country.

Ten years' experience as a field expert has taught me many valuable lessons about the causes of failure and success, but I think it would take more than one lifetime to learn all I ought to know.

A Note on Some Technical Questions

CERTAIN FISH INDIGENOUS TO CENTRAL AMERICA, such as cuyamel (*Joturus pichardi*), guapotes (*Cichlasoma managuense* and *C. dovii*), and mojarra (*C. guttulatum*), have many characteristics favorable to domestication, but their adaptation to pond conditions requires a great deal of study and experimentation. Cuyamel is purely vegetarian, grows fast, and has excellent eating quality; if its spawning habits are discovered and fry is obtained in abundance, it would make an excellent pond fish. The guapotes, native to Nicaragua, are the largest cichlids known in the Americas. One of them, *Cichlasoma managuense*, is very prolific and is aclimatizable to all tropical ponds of Central America and the Caribbean; the other, *Cichlasoma dovii*, attains a weight of 1000 to 1500 grams in a year or two; but the complete life history of these fish has not yet been studied. The mojarra makes a good pond fish in the highlands but cannot be cultivated in the lowlands.

Among the exotic species that have been brought in from various countries, *Tilapia mossambica* is the most adaptable and thrives equally well in lowland and highland ponds in Central America and the Caribbean. Carp and large-mouth bass, on the other hand, while doing well in highland ponds where the temperature ranges 16° to 24°C and there are no indigenous fish entering the ponds, refuse to spawn in the lowland because of the high temperature and the presence of too many native fishes. How to prevent the undesirable native fish from getting into the ponds is a difficult problem.

Basic data on temperature, pH reaction, chemical elements, and fauna and flora of the ponds are of the utmost importance for fish-culture development. The natural productivity of each experimental and commercial pond should be first determined in order to provide the basis for further study of the efficiency of artificial feeds and feeding, the advantage of association of species, the application of fertilizers, and other techniques.

Besides these main problems, there are numerous other technical problems peculiar to each region and country in connection with the care of the ponds, breeders, spawning, fingerlings, adults, diseases, transportation, marketing, etc., which must be taken into consideration and studied.

IN TRIUMPH THROUGH PERSEPOLIS

LUCYLE HOOK

THERE IS NO ACCOUNTING for the reasons why most people go places. But I knew why I was going to Persepolis. When I was nine, my mother was persuaded by a fast-talking book peddler into buying a twenty-volume set of books entitled "The World's Greatest Literature." There were such items as translations of the "Iliad," the "Odyssey," and the "Aeneid" by Chapman, Pope, and Dryden as well as any number of other unlikely works for a nine-year-old to cut her literary teeth on. Most unlikely of all was Marlowe's "Tamburlaine."

Perhaps it was the violence that appealed to the Tin-Can-playing, tree-climbing contradiction to femininity and scandal to my older brother that I was; perhaps it was the oversized characters, the cruel joviality, the ruthlessness, the overwhelming and inevitable success of my hero. I remember that I chanted aloud as I marched up and down the big veranda facing the main street of the little town in West Texas. Forgetting my sex completely in the heat of poetry, I remember most vividly (because it has remained with me through the years) that greatest of all barbaric yawps—

> Is it not passing brave to be a king
> And ride in triumph through Persepolis?

THEY HAD TOLD ME IN TEHERAN that a Point Four man would meet me at Takht-i-Jamshid (modern Iranian for the ancient Persian ceremonial capital of Persepolis) any time I got there if I let the divisional office at Shiraz know

EDITOR'S NOTE: *In the summer-1960 issue of our esteemed contemporary the* Columbia University Forum *there appeared an article (too stiff a word—an essay, sketch, impression) called "The Old Woman of Kooskh." It narrated an experience in a village in Iran connected with judging the quality of a USA-Point Four teaching film shown there. To us, the essay seemed so unusual in its sensitiveness to the overtones of quite ordinary events and everyday people, its evocation of atmosphere and mood, and its quiet acceptance of the human brotherhood under all differences of culture and race that we promptly wrote the author to ask whether she had anything else like that in her portfolio for possible use in the* Review. *She did, and it is this Persepolis sketch, which is actually an account of the events leading up to the Old-Lady-of-Kooskh experience. Recently we met Lucyle Hook while she was doing some research at the Folger Shakespeare Library in Washington and gleaned these biographical items: She is associate professor of English at Barnard College, Columbia University; teaches drama, does a good deal of research in that field, and has written various learned research papers; was born in Quanah, Texas, and holds B.A. and B.S. degrees from Texas Woman's University, M.A. from Columbia, and Ph.D. from New York University; was visiting professor at Melbourne University, Australia, in 1954 and dean of the American College for Girls in Istanbul in 1956-58; and has made two eight-month journeys around the world since 1954 and visited Europe thirteen times between 1926 and 1950, all on her own steam. We also learned that the "Old Woman" and "Persepolis" are her only two attempts at this kind of writing so far, but she would like to do more if they are any good. We think they assuredly are and we hope she will.*

when I was able to hire a car. There was a catch in "any time I got there," and although I did not realize it yet, there was another catch in "when I was able to hire a car." Even after my visit to the Teheran police headquarters on Saturday, escorted by a suave American Embassy interpreter, armed with passport, five documents complete with photographs and descriptions in both Farsi and English, and the blessings and recommendations of the United States government, my well-wishers at the office of the Cultural Attaché despaired of my being able to obtain a police travel permit before the biweekly plane left Tuesday morning for Isfahan and Shiraz. It was therefore with a sense of triumph that I had climbed into the small plane at the airport.

The flight across the mountains and deserts that Alexander the Great had trudged with his eyes toward Persepolis was merely a prelude. We skimmed the desert at times, the heat ripples from the sands dazzling the eyes like a blow to the head. Then we would rush aloft, the single-engine plane playing leap-frog over the mountains that rose before us suddenly. Below us, several times we saw the tiny insect trail of a camel train, and once a battalion of soldiers marched in miniature going nowhere.

And here I was riding toward Persepolis in a station wagon whose driver obviously knew more about donkeys than Chevrolets, thumping our way toward the summer palace of Cyrus, Darius, Xerxes, and Artaxerxes, the triumph of Alexander, and the aspiration of Tamburlaine and myself.

Through two villages where the women, wrapped in their chadores, scuttled like sheeted ghosts for cover at the approach of a car, past two small caravans of overloaded donkeys, picking their dainty-hoofed way across the expanse of corroded soil and sparse vegetation, past one herd of perky black goats, the only alert living things visible for the hours we spent in the dust cloud of our own making, we traversed the Marvdasht Plain, a garden spot when Alexander marched his legions along the same road toward Persepolis for his triumph in 330 B.C.

But when he marched away from the smoking ruins, he had set in motion by its destruction the forces which I now observed still at work after centuries. Even the water had sought refuge under the parched earth, manifesting itself only in the chain of slant-roofed adobe walls covered with scant boughs to shade the tired horse or donkey that toiled up and down the correspondingly slanted earth incline. Up the ramp he would plod to allow the rope attached to the weighted leather bucket to unroll its length into the opening of the well. Down the ramp he strained to draw the bucket to the surface and trip the elephant-trunk spout into the stone trough, thus completing the centuries-old ritual of extracting reluctant water from the ground to irrigate the tiny oasislike garden that surrounded the well. As far as I could see to the left and to the right of the road, these covered wells rose at two or three mile intervals along the line of an underground river as sole testimony of the richness that could make the Marvdasht Plain again that garden which Alexander the Macedonian had thought worth conquering. As the eyes grew accustomed to the heat and the glare and the dust of noon, in the distance the blue haze of encircling mountains was apparent, but nothing else broke the arid desolation of a land that had forgotten that a proud civilization had once flourished there.

I was still unscrambling and reassembling facts of ancient history when we reached the third and largest wall-surrounded village on the Marvdasht Plain. My driver opened the door of the car and helped me descend onto a heap of unglazed bricks and hop over the irrigation ditch, the public water supply of the village. The length of a city block brought us to a newly whitewashed gate, the entrance to a small garden behind the beige mud wall.

OUR ARRIVAL BROUGHT TWO MEN from the open door of the only two-storied house I had seen since we left Shiraz. I looked at it for several minutes after we entered the garden before I realized that it contained the first glazed windows I had seen all day. One of the men, Andre Hacobian, greeted me in the first English I had heard for forty-eight hours. He was an Armenian who had lived in nearly all of the countries of the Middle East, drifting here and there, picking up the language of each country. Finding his selected words of basic English his passport to a job with the Americans, he was the operator of a movie projector for the audio-visual group in the agricultural section of the Point Four program.

My introduction to the second man, Mohsen Shabany, was accompanied by Hacobian's explanation that Shabany was the Point Four agricultural agent for the Marvdasht Plain over which I had been riding all day. Here then was the man I had expected to meet at Persepolis—not an American but one of the first Iranians to be trained under the American plan.

The little green garden was a paradise after the hours of sun and dust. There was a small pool in the center around which phlox and petunias added color. Some melon vines wandered in true Southern style between the stalks of a small patch of green corn. Beans, tomatoes, and cucumbers showed their ripe fruit along the path to the house, and I examined some small fig trees as well as a flourishing grapevine.

The walls of the house were made of adobe brick, which, after three years, would lose shape under the torrential

downpour of the rainy season and form a mud-walled house similar to all others I had seen outside the cities. But here, the heavy whitewashed walls extended to two stories with ceilings of whole willow boughs through which the first layer of straw and the second layer of earth could be seen as I looked up.

Shabany motioned me across the floor of hard-packed earth toward the narrow stairs, a solid mass of adobe bricks built against the back wall of the passageway between two rooms. We ascended to the second floor, and pausing impressively at the threshold of a door, he pronounced the one English word I was to hear him say, "Office." And sure enough, it was an office. From the awed tone and his demeanor, I could sense the importance of this room. It was his background when he talked with the farmers. He represented authority among his fellow Iranians when he was seated behind his American desk with the tiered drawers on each side, behind him the shelf of profusely pictured American agricultural pamphlets which he could not read, before him the stack of hand-illustrated mimeographed instructions in Farsi which he had helped to prepare. Behind that desk and in that room he was a power: he had the knowledge that would restore the Marvdasht Plain to pre-Alexandrian fruitfulness, and he held his authority with dignity. I expressed my appreciation by looking at each item and by picking up the mimeographed bulletins. Shabany watched me to see whether or not I would understand the pictures without being able to read the Farsi text and was satisfied as I compared the drawings from left to right, obviously coming to the correct conclusion.

Hacobian appeared at the door with a rough white cloth and a tin basin and asked if I would like to cool myself. He pulled back some curtains at the head of the stairwell, bent down, and eased his feet out of his shoes. I had not noticed that there was another room, but now I gave a quick glance, then bent and took off my shoes also, for we were stepping off the dirt floor onto a Persian rug of such beauty that I gave an involuntary gasp as my stockinged feet felt the luxury. Toes flexing with delight, I advanced to the middle of the room, stopped, and looked. With the exception of a wide French window which opened the full length of one side of the room onto a small balcony, the entire room was hung with rugs of astounding beauty. Of every color, they blended into the predominant cherry red of the one on the floor. Even the rattan couch had as its covering a tapestry-fine Baluchestan. Stuffed Turkestan saddlebags made of rugs lay here and there. Hacobian translated my exclamations of wonder to Shabany, whose face lighted up at my appreciation of his taste and his principal property. While Hacobian was telling me that the room was mine for a short rest, Shabany went down to prepare a fruit drink and wash some grapes for us to eat. As soon as Hacobian had left the room, I examined the dozen or more rugs that surrounded me, and not until I had drunk my fill of their loveliness did I wash my face and arms and lie down for a few minutes upon the rough towel that I had spread over the rug-covered couch.

HACOBIAN'S VOICE FROM THE GARDEN called me to the balcony. He had brought to the side of the pool a taboret on which there were some glasses and a great basket of dripping green-white grapes. I hurried down the adobe steps and out into the garden, by this time wondering how I should broach the subject of going on to Persepolis. When my driver had asked Hacobian to tell me he wanted to do an errand in the village, I had told him to return in an hour. As I took my seat at the edge of the pool, I found that they too had been discussing my journey and now had an alternative suggestion to make. Why not, proposed Hacobian, stay in Marvdasht Village for the night, go to see the American in charge of the experimental farm about twenty miles out on the Plain that night, and make a very early start for Persepolis the next morning? My questions had already been anticipated: my driver would be sent back to Shiraz immediately. I would sleep in the room I had just seen. We would spend the morning at Persepolis, go to the tombs of Darius I and II, Xerxes, and Artaxerxes carved in the mountain at Nazsh-i-Rustum seven kilometers beyond Persepolis in the afternoon. In the evening, we would go to a village to show some films I had been asked to see and criticize. Since Hacobian would then have finished his work for the week and was due back in Shiraz within the next several days anyway, he would take me with him the day after the documentary film showing in the small truck that he used to carry all his equipment. By the time my driver appeared, all details were settled, and after drinking some of our fruit juice, he willingly started for Shiraz.

I settled back to enjoy the approaching evening, watching the boy-of-all-work haul up the familiar leather bucket after bucket of water to fill the trough from which a steady trickle was allowed to flow into the miniature irrigation ditch that honeycombed the garden. Shabany went up to his office and busied himself.

Hacobian went in and out of our gate several times carrying containers of film and other equipment, unloading the truck for our trip to the farm, making small conversation as he passed.

"The American's name is King," he volunteered as he passed with a large case.

"He has beat me to it," I mused idly and quoted to myself, "Is it not passing brave to be a king?" as I watched the lengthening shadows in the garden, now growing cool and moist.

Hacobian paused as he returned from the house. "Alex King—we say Alex."

"I can't believe it!" I exclaimed.

Hacobian momentarily chagrined, protested gently, "But he say Alex." He questioned anxiously, "Not right?"

Knowing the futility of trying to explain what was going through my mind, I assured him, "Right—oh yes, right to say Alex. He's righting an ancient wrong."

Hacobian smiled happily because I had not taken offense at what he feared I had thought a familiarity to one of my countrymen. I mused for a few minutes over the improbability that had brought an American named so appropriately to the Marvdasht Plain to make it bloom again.

THE SUN WAS NEAR THE HORIZON when Hacobian and I started down the little alley together, leaving the boy with instructions to have something for us to eat when we returned. The village was left behind immediately, and we started across the pathless plain. Time after time, Hacobian would peer ahead, detect a donkey path which led into a washed-out ditch, and drive cautiously along its rim for a short distance. We finally reached a place where there was evidence of a herd of sheep or goats, turned into a defined trail for a while, and then just as inexplicably turned out of it to pursue our wandering without a sign of a path. At one time he got out of the truck, examined the ground in front of the headlights, got back into the car, and turned sharply to the left. We had evidently gone out of our way several miles. We looked

anxiously into the distance as we picked our cautious way across sheep trails and eroded washes until finally he gave an exclamation of relief as we came to a well-travelled dirt road. As we detected some lights in the distance, I looked at the jewelled sky and drew into my nostrils the unaccustomed smell of green things.

The headlights of a car threw a sudden long clear spotlight on us as it came speeding around a wall and out on the dirt road. Both cars stopped suddenly as they came abreast, and a big figure, in one continuous motion, materialized against the light and leaned a friendly elbow on our door, while a Southern voice inquired, "And what can I do for you?" before he recognized Hacobian or saw me.

In the dim light of the cab, Hacobian smiled at me, flashing the signal that here was the man we sought. Impulsively, I opened the door and climbed down to meet this Alexander—this King—in front of our truck where I could see him. Hacobian, delighted with his role of introducing one American to another, had an urgent hand on the shoulder of his friend as we came from the masking darkness from opposite sides of the truck into the full glare of the headlights, our hands touching before we looked into each others' faces.

We were both startled: he at the presence of an unannounced woman and I that Alexander King was a Negro. We stood with hands clasped, staring into each others' eyes with that searching look that all of us have for a fellow countryman encountered in a foreign place. But our stares contained in an exact degree of intensity something else that must have puzzled Hacobian. We stood with hands still clasped, both of us pleading with fearful intensity: he wanted me not to be surprised to find a Negro in the important position he held—a plea that he had grown unaccustomed to make—an emotion he had forgotten in the years of complete acceptance in countries of the Middle East to which he had given his knowledge and skills in the service of the United States. My plea had a double edge: that he would not suspect me of meanness of spirit and blind prejudice—that he would recognize my good faith and not condemn me with the cankering doubt so many of his race held all too rightly about those of my color.

Our messages exchanged and understood, we broke into a torrent of questions which elicited the information that we were neighboring Texan and Oklahoman, that he had been called on an emergency veterinarian job to one of the villages about ten miles away, that the farm, which unfortunately I would not get to see, would have made me homesick in its similarity to Texas, and that he would see me in Teheran next week.

Hacobian, happy in our brief encounter, talked in torrential basic English of Alex, of his mastery of machinery no Iranian had ever dreamed of this side of Paradise, of the miracles he wrought with growing things, of his uncanny way with animals. We rode the first ten miles in a paean of praise for this Alexander whose power lay not in destroying but building.

BUT WE HAD GROWN SILENT as we traversed the last ten miles, and in silence we plodded up our narrow alley. The boy had set a small table on the balcony of my room: one knife, one spoon, a covered box of uneven chunks of hard sugar, a heavy glass for each of us. Unleavened flat bread measuring about eight inches in diameter (and resembling nothing so much as thinly padded grey flannel pot-holders) was piled two and three deep around the edge of the table; a few tomatoes and cucumbers and two large bunches of grapes occupied the center, placed there carelessly with unconscious beauty of design.

The boy pounced upon the dozen small eggs that Shabany, just returning from a farm, carried proudly in his hat, obviously thankful for this addition to the scanty meal which he had been able to bring together after searching Marvdasht Village. The already hot tea water on the charcoal brazier was used to boil the eggs, and within minutes we were seated at the table, a candle dominating the center, around which all our comestibles were piled. The boy fished out the hard-boiled eggs and started more water for the tea to come.

I watched intently to get the cue for my manners. My host removed an egg from its shell, deposited it on the flat bread, took the knife, quartered a tomato, peeled a cucumber lengthwise like a banana, returned the knife to the center of the table, and was obviously ready to eat. He tore off a piece of his bread, used the firm edge to cut the hard egg and the quartered tomato into convenient bites, mixed the two, added salt, and using the flexible rubber-like bread as a pincer between thumb and forefinger, conveyed the egg and tomato mixture to his mouth. I looked with admiration at this centuries-old use of the trencher. He ate as much of the bread as he wished and pinched up the next bite with what remained. Hacobian handed the knife to me and in quiet approval watched me use it in good imitation of my host.

By this time the boy had brought our steaming glasses of tea. Shabany selected a large chunk of sugar, held it between his teeth, applied the burning hot glass to it instead of his lips, and with appreciative noise, sucked the scalding liquid through the sugar into his mouth. That will take some doing, I thought to myself as I successfully managed my first bite of egg and tomato. By this time, my host had started on his cucumber, eating it banana-like from its skin. In silence, we nipped off our bits of bread, mopped our grey-flannel trenchers, reached to the center for more eggs, tomatoes, the one knife or spoon, eating hungrily, drinking with thirst, each busy with his own thoughts. The candle lighted up our absorbed faces, tired now and content to go to rest.

WHILE THE BOY CARRIED COTS to the garden, set them up in silence, gathered a quantity of rugs from a pile in the corner of the office and spread them like quilts, Shabany and Hacobian were discussing my sleeping arrangements. Clearly, by the light of the candle, there were no sheets on the cot in my room when they removed the top rug and revealed layers of others underneath. And just as clearly to them as to me, my retiring for the night would consist of stretching out on the couch. Hacobian's eyes sought mine to read my thoughts. Perhaps for the first time, he was afraid he would find doubt. Reassured, he left the room, giving me one of his friendly conspiratorial smiles and returning immediately with a small bundle of freshly carded wool that he was rapidly fashioning into a pillow by wrapping it in a clean towel. I almost gave myself away with an exclamation of relief at the sight of this protection for my head and face against the rug, but from his expression when I smilingly examined his proudly offered improvisation, I knew that he was absorbed in his own cleverness and knowledge of my needs and had not noticed my perhaps too eager acceptance of the pillow.

Shabany had stood by with blankly accepting face while these small arrangements were being made and turned away with only a short phrase as Hacobian and I talked a moment of the early start for Persepolis in the morning.

The boy had completed the cots for all three in the garden, and having discarded his shoes, was already asleep. I heard Shabany go softly down the earthen stairs and out the door. Hacobian pulled the curtains over the doorway so that I would have the illusion of privacy on my top floor, and he too softly padded down the stairs.

I walked out on the balcony and leaned across the table from which the boy had swept our combination bread and plates in one motion, flapped them against each other to be used again for breakfast, and had disappeared with them only a few minutes before. The large green grapes left in the middle of the table caught a gleam of light from somewhere. I absently pulled two, one after another, and put the first in my mouth as I watched Shabany drop to his cot in the garden below, remove his shoes, stretch his arms above his head, and cupping the back of his head in his hands, become motionless upon his rug-covered bed. As I put the second grape to my lips, Hacobian came from the house, stopped by the agent's cot for a short sentence. He lifted his face to the sky as if searching out the temperature for the morning, then he too went to his cot and was soon motionless.

I stood looking from my balcony at the flat tops of the houses across the little alley, some with small pent-houses that indicated a higher degree in the social scale for the owners than those whose feet never leave the earthen first floors. I too examined the sky. Far in the distance a dog howled, and I thought I heard the whimper of a child. But there was complete silence in the little garden below.

I tried to place myself in the surroundings, but I soon gave up such fruitless projection. Grapes had tasted like this always; the reality of tiredness and the need for rest had always been the same. I took another grape and backed into my room in my stockinged feet.

Envying the men the garden under the glow of the sky, I removed my stockings and pulled my dress over my head, pinning it on the slightly swaying curtains with a vague notion that it might shake itself free of wrinkles. At last, I lay in my slip on the cot over which I had spread the second towel to keep my bare shoulders from direct contact with the wool of the rug. My bare legs accustomed themselves to the roughness as soon as I had rationalized away the presence of anything that crawled or bit. And as my head settled back on the little woolen pillow Hacobian had fashioned for me with such pride and understanding, I allowed my childhood chant to sound over and over and over as a prelude to sleep:

> Is it not passing brave to be a king
> And ride in triumph through Persepolis?

"But that," I told myself as I slipped away, "is tomorrow."

FORUM

MONETARY POLICY IN INDIA

H. V. R. IENGAR

BASICALLY THE OUTSIDE WORLD is interested in this great experiment that is going on in India, an experiment in human progress by a country which is trying, in the face of enormous odds, to provide for its people the rudiments of a modern economy. But let us not forget that an essential factor in the considerations that bear on this problem is our ability to make use of assistance. Have we an understanding of the nature of our problem? Have we set our targets right? Have we the ability, technical and managerial, to carry out the tasks of development? Have we the ability to assess and handle the difficult problems that necessarily arise in a developing economy such as ours in the management of money? Confining myself during this talk to the last point, it seems clear to me that one of the yardsticks by which we are judged abroad in regard to our ability to absorb and utilize external assistance is the manner in which we are able to handle the problem of monetary stability.

It is true that in deciding on the assistance to be given to a country a whole lot of considerations, not all of them of economic significance, come into play. But as between a country which is able to achieve development with reasonable monetary stability and one which allows inflation to become a serious problem, the chances are that the former will be trusted with a greater degree of external assistance. The question, therefore, as to whether we are likely to get external aid to the extent of Rs. 2,600 crores [1 crore = 100 lakhs; 1 lakh = 100,000 rupees] for the third five-year plan depends to some extent on the appreciation by creditor countries and organizations of the manner in which we have been able to handle the problem of monetary stability and are likely to do so in future. . . .

Economic Progress

DURING THE FIRST PLAN PERIOD AS A WHOLE, the national income rose by 18 per cent, food production went up by 27 per cent, and money supply—currency and demand deposits of banks—by only 10 per cent. The index of wholesale prices fell by 19 per cent. For the purpose of interpretation, the period may be broken into two subperiods. Between 1950-51 and 1952-53, national income rose by about 7 per cent and foodgrains production by 12 per cent while money supply declined by about 10 per cent. During this period prices declined by 12 per cent. There is nothing surprising in this. Between 1952-53 and 1955-56, money supply expanded by 24 per cent and national income rose only by 11 per cent. It might have been expected that the price index would go up, but actually it fell by 8 per cent. This was because of the steady and substantial increase in the output of foodgrains, which

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increased from 58.3 million tons to 65.8 million tons.

During the four years of the second plan, money supply has increased by 24 per cent and national income probably by 14 per cent. The price index has been rising almost continuously. During this period food production has not matched the increase in money supply. There was a steep fall in production in 1957-58, and on the average production has shown a relatively poor rise in relation to the growth of money supply. The rise in the wholesale price index has been over 25 per cent since the commencement of the second plan as compared to an expansion of money supply of almost the same magnitude. The key to the explanation for the behavior of the price level in relation to the rise in money supply would appear to be agricultural, more particularly food production. The failure to increase this more substantially is the basic malaise of the Indian economy in the present stage of our development.

The above analysis suggests that in order to preserve monetary stability the authorities have to keep a continuous watch over the trends of money supply and regulate it in accordance with the needs of the economy. What is really difficult is to assess the extent to which such regulation is necessary and the means of doing so.

Money supply increases as a result of the operations of the banking system, including in particular the Reserve Bank, and also of Government. The latter, namely, the budgetary deficit, is much the more important factor by far. During the second five year plan, which has some five months to run, the total deficit will be of the order of 1,200 crores—a very substantial figure indeed when it is considered that the total outlay in the public sector is about 4,600 crores. This deficit was deliberately created on the view that without it, it would not have been possible to have a plan of the minimum dimensions required in the country's interest. Whatever the reason may be, a sizable deficit financed by recourse to Reserve Bank credit creates difficulties for the Bank in maintaining monetary stability. What then is the role of the Reserve Bank in the field of deficit financing?

Deficit Financing

THE VIEW IS SOMETIMES HELD that deficit financing is per se inflationary and should therefore be avoided. It is forgotten that in the Indian context, such a view would have led to virtual stagnation of the economy. When the first plan was started, the rate of saving in the economy was about 5 per cent. Even with the assistance obtained from foreign countries, the total investment and consequently our rate of increase in national income would have been substantially smaller than has actually been the case. Deficit financing is a means of enabling resources to be utilized. In an underdeveloped economy, it is a necessary means of increasing the community's savings. The question is not whether deficit financing is per se inflationary. The question at all times is whether recourse to it can be kept within appropriate limits so that while it functions as a useful instrument of credit policy in the harnessing of resources, it does not overextend itself and lead to inflation. The principles have been admirably stated in the Report that was presented to the Government of India in 1953 by a mission from the International Monetary Fund headed by Mr. Bernstein. It is this report that forms the basis of policy for both the Government of India and the Reserve Bank.

There is close and continuous contact between Government and the Bank on this aspect of plan financing. In the ultimate resort, Government has to take a decision on the basis not merely of the advice given by the Bank but of other considerations that may be relevant. But the policy of Government being identical with the policy of the Reserve Bank, namely, to preserve monetary stability, there cannot be room for any large-scale difference between the two. Government's difficulty in arresting the pace of deficit financing, when that is considered necessary in the interests of monetary stability, arises not because of differences in attitude and approach but because of the very practical consideration that schemes which have been launched cannot be stopped halfway without serious loss. It is therefore necessary that the quantum of deficit financing initially planned should err on the safe side. The figure taken into account in the third plan is the figure worked out by the technical staff of the Reserve Bank on a number of assumptions, one of which is that Government will make a massive fiscal effort. . . .

Role of Reserve Bank

THE ROLE OF THE RESERVE BANK, within the limitations set out above, is to regulate money supply so that it is not excessive to the requirements of the economy. An analysis of recent events suggests that in fact it has proved somewhat excessive.

Let us, however, before proceeding further, be clear about the magnitude of the problem. There is a tendency in our country to think that we are in the midst of some serious inflation. That is not the case. There has been, during the last four years, an uncomfortable rise in price level; on the base 1952-53 as 100, the wholesale price level is now 125. This has taken place partly as a result of specific developments in India and partly as a part of the world problem. Inflationary pressures have developed in practically every country in the world. I am not in this context referring to the communist countries where there is a total control by the state over the entire economy. The annual reports of central bank governors and of the International Monetary Fund have dealt repeatedly with this problem. In the world setting, the rise that has taken place in India cannot be regarded as unusual, or serious.

Perhaps the cost of living indices are a better measure of monetary stability than wholesale prices. On the basis of these indices, published by the International Monetary Fund, India has done better than the United Kingdom, France, Australia, and New Zealand and almost as well as Western Germany and Japan during the period since 1953. But having said this, it is necessary also to say, as I have said repeatedly, that we are rightly concerned with the price developments that have taken place during the second plan. The concern is due to two facts, firstly, that increase in prices affects the very essentials of existence for our people, and secondly, the rate of increase has recently been too high. We cannot afford a continuous increase, particularly at this rate, and we must take steps to halt the process.

The role of the Reserve Bank in the present situation is to reduce the pressure of monetary demand without at the same time hampering production. In other words, money must be made tight but not at the expense of production, for that would be self-defeating. If you like, you may call this a holding operation—to keep inflationary pressures at bay while the production forces are gathering momentum. This objective has previously been sought by a variety of measures—by an exhortation to banks to reduce over-all credit, by reducing Reserve Bank accommo-

dation to the banking community, and by regulating credit to specific sectors of the economy—what is called selective credit control. These measures have had rather limited success, and more recently we have attempted another technique. As we wanted to ensure both that credit was available for genuine productive purposes and also that its use was not extravagant, we decided that banks would get accommodation from the Reserve Bank at the Bank rate only up to limited amounts on the basis of quotas fixed on a uniform basis and beyond that at a higher cost. We also ensured that all banks—and not merely those that borrowed from the Reserve Bank at penal rates—made their credit to their clients more expensive. . . .

Effects of Dearer Money

TWO CRITICISMS ARE COMMONLY MADE against this recent policy of the Reserve Bank—the policy of dearer money.

The first criticism is that there is a considerable unorganized money market over which the Reserve Bank has no control and that the consequence of putting increasing pressure on the organized market is to divert business to the unorganized sector.

This criticism is not altogether invalid, but its validity is far less than is generally supposed. In the first place, the organized sector of the money market is growing as a result of extension of banking in the country. Some 30 years ago, it was estimated that nearly 90 per cent of the internal trade of the country was handled by the unorganized market. There are reasons to suppose—although it is difficult to be precise about this—that this percentage has gone down to 50 per cent. Moreover, the two sectors are not watertight compartments. There is a growing connection between the two in the sense that developments in the organized sector have an impact on the unorganized sector. The area of influence of monetary action is spreading.

The other criticism that is made is that monetary measures by themselves are ineffective, that fiscal measures which Government ought to take are not being taken and that consequently the policy of dearer money is merely making things difficult for everybody without any effect on the general inflationary pressures in the country. In particular it is stated that the small man is being hit by the recent intensification of monetary measures by the Reserve Bank.

To take the latter argument first, I do not think it is, as a general proposition, correct. The policy of dearer money has not been applied to the large—increasingly large—sums that are being made available to the agriculturist through institutional sources. To the extent that he borrows from other than institutional sources, the rates are already so high that a half per cent or one per cent rise in the cost of organized bank credit would have no effect on them.

The small man in urban areas has comparatively limited recourse to institutional credit, though this is growing. It is quite possible that anything that makes money dearer to him is a burden. But the extent of the new burden is small. . . .

It would be idle for anyone to make the claim—and I do not make it—that the measures taken by the Reserve Bank have at every stage been exactly timed or just appropriate. I do not think there is any central bank in the world that makes such a claim.

The more extensive the use of monetary weapons, the less is the area available for further maneuver in the monetary field. I do not see much scope for extending the area of selective credit control, though existing measures will doubtless have to be modified from time to time. The method of exhortation has not in the last few months been notably successful, but I expect it will continue to be applied. Dearer money can never, at any time, be regarded as a complete policy in itself; it is a relative thing and obviously must be subject to a process of adjustment. But I foresee that as a general policy what will happen as a result of extension of institutional finance is a gradual reduction in the cost of money to those who are now paying unconscionable rates and perhaps a gradual rise to those who have hitherto been obtaining it very cheaply—in other words, a gradual readjustment and in due course a smoothing of the great inequalities in cost which now exist. . . .

Place of Monetary Policy

I HOPE I HAVE NOT OVERSTATED the possibilities of monetary policy for the preservation of monetary stability. The point that I have been trying to make is that the scope is larger than is generally supposed and that it is expanding, but of course it can make only limited impact in inflationary pressures unless steps are taken in the fiscal and administrative fields. Steps have also to be taken by all sectors of the general public, for it would be the profoundest mistake to think that the task of maintaining monetary stability is a task only for Government and the Reserve Bank. Discipline, hard work, and integrity are necessary all round—among workers, supervisors, managers, the entrepreneurs, and persons engaged in administration. In other words, the attempt has to be many-sided, and in this attempt, monetary policy does undoubtedly occupy an important place.

TO ENLIST YOUNG MANPOWER FOR DEVELOPMENT

MULTIPLY THE PEACE CORPS

MAX E. HODGE

THERE HAS BEEN MUCH DISCUSSION recently of a "youth corps" for the United States of America. Its possibilities for underdeveloped areas might be even greater. To put such a scheme into proper perspective and to realize its maximum benefits, it is necessary first to review briefly certain fundamental facts about underdevelopment and development.

While underdevelopment may be largely a physical state, measurable in physical terms, development as a process is a mental, cultural, ethical, spiritual state, difficult to measure in physical terms.

The principal causes of underdevelopment are not the ones that might superficially seem to be responsible. Were dearth of natural resources responsible, for instance, Switzerland, Holland, Japan, and Britain should be at the bottom of the scale, and the Congo, parts of South

America, and the Soviet Union at the top. If population density were to blame, Holland should be at the bottom along with much of the rest of Western Europe and eastern North America, while the emptier parts of Africa and the Near East might be at the top. An unfavorable climate is often blamed, with some reason historically; Toynbee observes that man, to reach his highest development, seems to have required a certain amount of environmental challenge. Yet Hawaii, Puerto Rico, and Venezuela, all in the tropics, are probably among the fastest-developing areas today.

Nor is development, particularly in its initial stages, merely a physical phenomenon. Underdeveloped countries are prone to seek and developed countries to give the products rather than the causes of development—the steel mills and atomic reactors rather than the schools and country roads. *Why* is always harder to explain and learn than *how*.

Underdevelopment manifests itself mainly through a vicious circle of apathy and ignorance, leading to self-perpetuating poverty. There is usually little communication within the country and little incentive to better one's lot. What economic gains are made through external assistance often go into widening the gulf between the few rich and the many poor, or into supporting more and more people at the same—unimproved—level of existence.

Development starts only when that circle is broken at some point. Key to this take-off—to use Professor Rostow's term in a different context—is usually some key group, or perhaps only a good many individuals, exposed through education and communication to what the world has to offer and sufficiently dedicated to make the decision to work for it. The composition of the group and the form of the take-off may vary immensely. What is essential to development is a sufficient number of such people. What is essential for those who would aid development from outside is to recognize the importance of this process, identify and encourage potential key groups or individuals, and, once the latter have made their decision, grant all possible assistance.

Fundamentally, in other words, development depends not on physical factors but on people. Of the classical economist's factors of production—land, labor, capital, entrepreneurship—only land is not a creation of man, and that only in its narrowest sense. Land without improvement or use is hardly a factor of value. The first step in development, then, is a determination on the part of people. Industries, houses, roads, schools are needed, of course, but these are tools and products of development, not development itself.

Finally, development is not merely a "revolution of rising expectations." Expectations are free; development is painful and costly in terms of giving up certain "privileges" more widely enjoyed in underdeveloped than in developed countries—freedom to work or not, to pay taxes or not, to maintain one's residence in any condition, to walk where one pleases, to practice any sanitary habits or none. Development consisting only of trappings acquired by external aid, for instance, is not development. It will cease as soon as whoever is paying for it ceases to pay. It may even leave the recipient worse off, for he may have postponed essential decisions until they become much harder to make.

The biggest task, then, is on the one hand to encourage the decision to develop at the cost entailed, and, on the other, to recognize when that decision has been made so that aid may be effective. This is where the youth corps might be useful.

LAST SUMMER Max Hodge, then U. S. Consul in Dacca, sent us a copy of an Ahmad Saghir Memorial Lecture he had given in East Pakistan in February 1960 and inquired whether we would be interested in publishing it as an article. We answered that we would like to abstract the principal proposal—a civilian conservation corps, or youth corps, in underdeveloped countries—for the next issue of IDR, October 1960. Time passed and we had no reply; so, though we had forehandedly had the text set in type, we did not dare use it. This winter Mr. Hodge, now in Washington, telephoned us; what, he asked, had become of his suggestion last summer? It turned out that he had never received our reply, having left Pakistan before it arrived. (Recently the letter came back. It had taken five days to reach Dacca by air, four months to return by surface.) We asked him to revise the article somewhat, since meanwhile the U. S. Peace Corps idea had been proposed and widely discussed, for this issue. Our only additional comment is that the youth service corps idea is of course not new. Its immediate antecedent was the Civilian Conservation Corps of the New Deal, but if our memory is correct (it frequently is not) Kropotkin had made some such suggestion much earlier, as had H. G. Wells; and it was one of the basic ideas of the Japanese Samurai. Perhaps its ancestry could be traced even farther back.

I PROPOSE that each underdeveloped country wishing to develop establish an institution—it might be called a civilian Construction Corps or a Youth Corps or by any appropriate name—that would provide for a tour of service of one or two years for young men to work on projects needed by their country. In addition to pay, the participants would receive such benefits as regular work habits, medical care, general education in literacy and other basics, and suitable technical training—all urgently required by the people of underdeveloped areas. Most of all, each member would have cause for pride—pride in his labor, in doing something for himself and his country, in being a member of a very important group.

In addition, projects might be carefully selected to provide the things most desperately needed by the country: highways, bridges, railroads; the groundwork for schools, public health, recreation, and better agricultural practices.

Such a scheme would help to eliminate one of the greatest handicaps in underdeveloped lands: parochialism, or limited horizons. It would do this both by getting youth corps members familiar with different parts of their own country and by facilitating the flow of goods and ideas through improved communications.

The program need not be prohibitively costly. A large part of the expense would be in local currencies—wages and food, plus many locally available supplies. Counterpart funds generated by aid programs might well be used in this way, with direct foreign aid helping to provide the imported component. By providing work for large numbers of people such a plan would go far toward reducing the

need for costly public and private charity and eliminating the widespread practice of begging. Also the plan might well have the incidental but desirable effect, in countries overpopulated for their degree of development, of postponing marriage for a year or two.

While a voluntary program would accomplish much, serious thought should be given to making it compulsory. If development starts, everyone is going to share in its benefits and should be expected to contribute. A compulsory program would be no more undemocratic than compulsory military service, common in developed and underdeveloped countries alike. Where universal military service already existed, young men might be given a choice of services or assigned in accordance with the country's needs. Compulsory service need not preclude voluntary enlistment, re-enlistment, or making the work a career.

The administration of such a program would probably require considerable technical assistance, but this would be available through programs of aid. For middle-level supervisory personnel, there are at hand many career civil servants in most underdeveloped areas who should welcome this human raw material to carry out long-advocated schemes of development. Those in the service could of course rise as fast and as far as their abilities and dedication permitted.

Most essentially—to return to the theme of the first part of this paper—such a scheme would provide a way to measure preparedness to undertake development, before either the host government or an aid-giving government was too deeply committed. It would ask many people to give up certain privileges for the sake of a great though intangible goal—perhaps the best test for preparedness to develop. If such a program were found totally unacceptable in a given country, there would be good reason to conclude that that country was not yet ready for the "big push" of development. If, on the other hand, the program was strongly supported by leaders and rank-and-file alike, no better evidence could be asked that the country was ready to start development and should be aided in every possible way.

B. K. NEHRU'S "RATIONAL APPROACH"

A COMMENT

LOUIS J. WALINSKI

EVEN THOUGH ONE SUSPECTS that, in his article in the Autumn 1960 issue of the *International Development Review*, Ambassador Nehru is generalizing the particular case of India, his general approach to problems of foreign assistance is sound. The weaknesses in his argument appear to be of two kinds. Some of his conclusions are too categorical and weaken the case by overstatement. Others, with which one is inclined to agree on other grounds, appear to be based on questionable logic.

There is much to be said for establishing as the goal of development assistance the bringing of underdeveloped countries to the point from which further development can be self-sustained; for regarding each underdeveloped country as a "PROJECT" in Nehru's sense (evaluating its development program as a whole and providing program rather than project assistance); for having the developed countries decide as a matter of principle that they will make the necessary aid available on a long-term low-cost basis in relation to their means; for program evaluations and end-use checks to be made by international organizations and institutions; and for the underdeveloped countries to contribute to the maximum degree possible toward the total resources required for a program acceptable to the lending countries, and to take all possible measures to attract private investment as well.

One need not argue with Ambassador Nehru about the figure of one per cent of their national income which, he suggests, the developed countries should set aside for the benefit of underdeveloped countries. He himself says that "in fact it [the necessary sum] is likely to be considerably less." More questionable is his statement that the aid programmed should be on a continuing basis "without regard to the vicissitudes of budgets or balance of payments or capital markets" in the developed countries. The timing of this argument from the point of view of the largest assisting country, the USA, happens to be bad.

While very few, I believe, would argue that the United States of America (and other developed countries) should not strive to the utmost to assist the developing countries despite budgetary and balance-of-payments problems, the unqualified imperative seems overly strong and unacceptable. It is not that Ambassador Nehru fails to appreciate the importance of balance-of-payments problems of the countries to be assisted. Indeed, their problems constitute a strong part of his case.

The one-sidedness of this argument reminds one of the World War II Roosevelt-Molotoff story in which the USSR Ambassador, on complaining of the many particulars in which the U. S. supply program to his country was behind, and on being told that in each of these instances the delay was due to the fact that his country was equally behind in some related program for which it was responsible, exploded: "Mr. President, I did not come here to talk about our behind. I came here to complain about yours." Ambassador Nehru will have to recognize that there are two sides to this coin.

The Ambassador is very frank in discussing the manner, terms, and conditions under which aid should be made available. He proposes grants or fifty-year loans at noncommercial rates of interest or loans repayable in local currency. Grants, he states, are "probably the best approach" if "the parliaments of both the developed and underdeveloped countries are sophisticated enough to take it." The lowest-interest long-term loans and the loans repayable in local currency (which must "be made to vanish through some respectable process") that he proposes "come very near grants; but till such time as the concept of large-scale grants becomes generally acceptable, these devices can be used with advantage." Clearly, Ambassador Nehru prefers grant aid but is willing for both parties to conceal the fact that what is being given essentially is grant aid,

until both donor and recipient are "sophisticated" enough to accept it.

But grant aid, even if the developed countries were willing to extend it, is scarcely reconcilable with other positions taken by Ambassador Nehru—in particular, with the safeguarding of the integrity and sovereignty of the recipient nations in deciding how and with what policies to achieve the development they seek. Certainly countries extending grant aid would expect to have a great deal more to say about how the money they provide should be spent, and for what, than in the case of loans. Certainly, too, borrowing countries would be in a stronger position in terms both of self-respect and of the use of aid if they were borrowing the money with the full intention of paying it back. And, whatever the rationale on the other side may be, there can be little doubt in practical terms that the receiving countries would be less careful in accepting and using grant aid than they would with borrowed funds. This is not to argue against grant aid under any circumstances. There are undoubtedly situations and conditions which might make grant aid, or some measure of it, preferable. But I believe Ambassador Nehru has overstated the case.

AS TO THE CONDITIONS which the borrowing country must meet, everyone will agree of course with the statement that it should make every effort to raise whatever domestic resources it can. Ambassador Nehru cites, in this connection, taxes and internal borrowing programs. I am sure he would agree that a number of other factors bearing on domestic resource mobilization also need to be considered in this connection. But I wonder where he would draw the line. For example, what of the need to improve tax enforcement, the public administration, the essential services, efficiency in public enterprises? What of the need in some countries to take active steps to control population growth or, through appropriate policies, to stimulate private savings and investment? What of the need, in many countries, to establish internal order, eliminate corruption, reduce economic and social discrimination, and so on? These and similar factors also have a considerable bearing on resource mobilization and utilization in the underdeveloped countries. A country that is making every effort "to raise all the resources it possibly can from within the country" might be expected to make vigorous efforts on all these lines, as well as in taxes and borrowing.

I do not cite these factors because I believe that each borrowing country "must demonstrate [satisfactory performance in all such cases] to the outside world before it can legitimately ask for external assistance." I am aware of the very grave problems that might be involved in demanding complete performance on so broad a front. Yet this would apparently be called for by Ambassador Nehru's unqualified statement.

Ambassador Nehru has also stated as an obligation of a borrowing country "that its own capital is not permitted to escape abroad." This strikes me as rather odd. I am aware that in some of the underdeveloped countries there is both a disposition on the part of capital to seek flight abroad and a fear on the part of the government lest it do so. I should be more inclined to accept on this score the formulation that the borrowing countries should seek to establish conditions and policies that would reduce the incentives (or fears) that spur domestic capital to flight. If this condition exists, I would be inclined to regard it as prima facie evidence that the policies being pursued are not conducive to economic development and growth. The obligation should be to modify the policies responsible rather than to repress their consequences.

No one would argue with Ambassador Nehru's statement that "foreign aid should not be made an instrument for the subsidization of high-cost home industry." Aid is of course preferable on an "untied" basis. But, adverting to the earlier argument (concerning the assurance of continued aid without regard to the possible balance of payments problems of lenders), it seems to me that a developed country which, largely because of its assistance programs, is developing a serious balance of payments problem is entitled to tie all or part of such aid to procurement within its own boundaries without the charge that aid programs were being used to subsidize high-cost home industry.

In appreciating Ambassador Nehru's argument in behalf of country program rather than individual project aid, one can appreciate also the merit of his position that the borrowing country needs the flexibility to use such assistance, on occasion, not only for direct development goods but also for "the indirect foreign-exchange requirements arising from the effectuation of the programs." This, I take it, is merely another way of stressing that development financing will at times be needed to cover total project costs, rather than foreign exchange costs only, to make possible the importation of offsetting imports against inflationary domestic development spending. I have a little more difficulty, however, with his statement that "where aid is on a project basis there should be no ideological discrimination between the public and private sectors."

Ambassador Nehru has argued, in favoring the program or country PROJECT versus the individual project approach, that ideological conditions are sometimes attached to project loans, and he cites the demand frequently made in connection with industry loans that these activities should be in the private sector. "Refusal to finance a project because it may be inefficiently managed or uneconomic is understandable; refusal to finance it because of ideological objections to certain kinds of ownership is neither economically justifiable nor politically wise." The Ambassador asserts that "in most underdeveloped countries, where the alternative is not between the private and public sectors but between the state creating an industry and the industry not being created at all, the effect of such limitation is to deny economic development."

I do not agree that in most cases the alternative is one of state industry or no industry at all. This might be so in the case of some huge plant, but hardly for medium-size or smaller ones. Further, large plants do not need to be entirely state owned, even when the government takes the necessary initiative. The government could work out joint venture arrangements which might include domestic investors, foreign investors, or both. Or it might provide loan capital to such investors without equity participation of its own. Such arrangements would go a long way toward assuring potential lenders that the project was more likely to be reasonably well managed and operated than would be the case with completely state-owned enterprises.

This doubt as to the prospects for adequate management and profitability of a state industrial enterprise is not an ideological but an economic position. Further, if the lender believes that private as well as public sector development in an underdeveloped country is indispensable to optimum development and growth, and is aware that state manufacturing industry is likely to be favored unduly by the government in competing with private in-

dustry or may even be awarded a monopoly position, this too may be considered an economic rather than an ideological position. I may add parenthetically that when, in 1954-55, I had occasion to discuss with the World Bank on behalf of the Burmese Government the prospect for IBRD financing for a state-owned paper and pulp mill, I too was disappointed at the time in the position taken by the Bank Mission. I must say that Burma's subsequent experience with state manufacturing enterprises in steel, pharmaceuticals, jute, and sugar fully confirmed the wisdom of the Bank's earlier position.

Ambassador Nehru, incidentally, cites this problem of lender attitudes toward government manufacturing enterprises in support of the program approach to assistance. It seems to me to argue the other way. If the lender does not wish to finance a state industrial project, it may nevertheless finance projects of other kinds. So long as the foreign lender finances other elements in the program, the borrowing country can use its own resources for other purposes, in this case the state industrial project. The case of the program approach, however, is quite different. Here the state industrial project is part of the total program the lender is being asked to support. If the lender objects to this element in the total program, he may refuse to support the program at all.

I COME NOW to what strikes me as conceptually the most intriguing of Ambassador Nehru's arguments, which he develops under the heading of "Terms and Conditions of External Assistance." Here the Ambassador says that whereas it makes sense, in internal lending, to link the life of a loan to the anticipated life of the project concerned, in international lending "this criterion has no significance whatsoever, for the debt has to be paid not from the earnings of the project financed but from the earnings of the entire economy." The earnings of the entire economy, in the context of the following argument, appear to be its foreign exchange earnings.

Two conceptual confusions seem to be involved here—first, that foreign exchange earnings equate with true earnings; and second, that no individual international-payments obligation can be met unless all necessary or desired international payments can be met. Obviously, neither of these is true. An uneconomic project may help improve a country's balance of payments yet yield fewer total outputs than inputs and reduce, rather than increase, the gross national product. A preponderance of such projects might substantially improve the balance of payments and reduce living standards at the same time. The capacity to transfer payments would have been increased but not the real capacity to service debt. Foreign-exchange earnings are thus precisely that—earnings of foreign exchange; but they are not necessarily earnings in any other sense. And to assert that a country cannot service foreign financing for an individual productive project which also helps improve an unsatisfactory balance of payments position until a break-even point in the total balance of payments has been reached verges on the absurd. Such projects merit priority in development programs, and in claims on scarce foreign exchange as well. If they are not given such priority, it is difficult to see how structural balance-of-payments difficulties could constructively be overcome.

As indicated at the outset, these criticisms indicate for the most part the need for qualification and flexibility in the argument rather than objection to its conclusions in the broad sense. On the whole, Ambassador Nehru's presentation lives up to its title. It does suggest a rational approach to foreign assistance.

EDUCATION FOR REVOLUTION

A PROPOSAL

ROBERT A. SOLO

FOR UNDERDEVELOPED COUNTRIES everywhere a revolution is in the offing. This revolution is not to be confused with the violent seizures of power and the downfall of governments. The revolution I mean is in the tremendously difficult re-creation of social mores and economic institutions. It involves departing from the traditional society and the handicraft economy, crossing the threshold to the new fluidity of personal relationships, the individualism, the science-orientation, the rationality, the high-productivity industrialization that characterizes our modern world. It is a social and economic revolution that is successful only if it achieves a new dimension of individual fulfillment and group power.

The peoples of these lands are panting after that revolution. They must have it. They will make it or break their heads, and hearts, in the attempt.

And what do we of the United States have to do with their revolution? Our purpose is to help them make it, quickly, with a minimum of pain and terror, and to maximize the chances that the emerging societies will be permeated with humanist and democratic values; so that the new nations come forth as friends, not antagonists, as natural allies in the protection of values which we share together.

Only those of and within the emergent societies can make their revolution: and they will make it only if they know how. They must know *where* they are and where they want to go. They must be a bridge between the two worlds. The revolution will never be easy. It will always devour men's energies. It will require a dedicated leadership and followership. The possibility of the revolution, its success, its direction, the shape of what emerges, will depend on the existence of that leadership and followership, on the depth of its dedication, on its knowledge, on its values.

For those (ourselves, for example) who would accelerate that revolution and influence its direction, the first step (the primary task) is to reach (to create if need be) its leadership and technicianship, to train that leadership, give it the knowledge it needs, share with it our values (which will be accepted not because they are ours but because they seem good), and give it support in a long uphill struggle. The job is to garner from the waves of the oncoming generation those who can lead a revolution, train

them, and support them in their enormous task . . .

Suppose we undertake to reach, train, guide the leadership of revolution. How are we to do it? Perhaps by the extension, on a more selective basis, of fellowships and scholarships to American universities? That would be a very good thing . . . especially . . . with respect to mature individuals who know what they want to learn and where they intend to apply it. But the numbers of such qualified specialists from the impoverished lands is necessarily few, and their role is limited. Making and shaping a leadership of revolution requires an educational effort of another order of magnitude. The job of transforming backward societies will take a long time, generations. The know-how of democratic transformation is only slowly being developed. The raw youth of each succeeding generation must be trained, trained long and trained hard, in thousands to work among the hundreds of millions, in the farms, in the factories, in the schools, in the laboratories, in governments, making their revolution from the ground up. This is something other than giving a few trained specialists further graduate training . . . Nor, I think, can we hope to train those thousands to return and transform their societies by opening wide our colleges and granting more scholarships, for this reason simply, that to train a leadership and technicianship of economic revolution is not the task or responsibility or interest of the American college. The American institutions of higher learning are shaped to a different objective, a different concern.

The student who comes to an American university from those impoverished lands is not taught how to partake effectively in his handicraft economy and traditionalist society and how to contribute to its transformation. He learns instead how to make money, how to get ahead, how to be a success in the United States. He learns the lesson that was designed for the group in which he finds himself. Nor does the atmosphere in which he studies induce in him the esprit or incline him to the dedication that is required for the arduous task of democratic revolution. Observe the graduate of an American university who has come from some areas of deep backwardness. Does he burn to return to contribute what he has learned to the revolutionizing of his own land? On the contrary, he tries desperately to stay on. Which is to be expected, for what he has acquired equips him not to return but to remain.

THIS ARTICLE *is a much abbreviated version of a proposal made in November 1960 to a group sent by the U. S. State Department to study the feasibility of a "cultural and technical exchange center" in Puerto Rico as an element in U. S. assistance to underdeveloped countries. That study followed from a resolution of the U. S. Senate that also provided for the actual establishment of a center in Hawaii—in effect, a federally subsidized graduate school of Far Eastern studies at the University of Hawaii. The essence of my proposal is that what is needed, and desperately needed, is not another graduate school of Latin American studies, this time at the University of Puerto Rico, but a great, independent university that would educate specifically for the tasks of democratic revolution. The advantage of Puerto Rico for such an institution is that it exhibits not only the outlook, values, and techniques that characterize an advanced economy but also the very process of a successful and profoundly democratic industrial revolution. The techniques of development are in operation, and the problems of rapid transition can be studied on the spot.* RAS

Given the job, tools must be shaped to do the job. If training a leadership for the tremendously difficult transformation of ancient impoverishment to high productivity and humanist democracy is our task, then an educational institution, a great and independent university, should be created to accomplish that task, shaped to that purpose specifically.

This is not to say that a course in physics or mathematics for a student from Rangoon should be different from a course in physics or mathematics for a student from Chicago. No doubt there is much to be learned that is universally valid . . .

But education cannot do more than prepare individuals to perform certain functions under certain circumstances. When functions or circumstances change, the educational system, if it is to remain effective, changes correspondingly. And where different functions must be performed simultaneously, then the educational system divides itself into a number of systems, each specializing in a category of preparation. If someone wanted to be an architect, no doubt he would learn something of relevance to that ambition if he should attend a school of medicine, or engineering, or business. But it would not be the same as if he studied architecture. And if there were no school of architecture? If the architectural function was important and the need was there, it would make sense, would it not, to recommend that a school of architecture be created? . . .

All this applies not only to specialized technical training but also to the more general studies that comprise undergraduate education. The undergraduate also is being trained for a role, prepared for a function—for the role of the citizen, trained to understand the social world in which he lives, to adapt himself to it, to act effectively and make a good life in it. The world to be understood, the role of citizenship, the means of effective action in the ancient impoverished lands is of another order than in the United States. I happen to be an economist. I know that the theory and philosophy of economics rests on unspoken premises—for example, the assumption of aggressive, self-interested, rational individualism as a general social motivation, which is in fact quite foreign to realities in the traditional societies. But this is the economics that the student from a traditional society must learn in the American college. Similarly with sociology, political science, psychology, law; they speak of a different world. Since it is often harder to unlearn than to learn, that irrelevant knowledge can be more of a burden than an aid to the student who returns to his own land to find that his preconceptions mislead and his expectations are destined to frustration.

A few days ago I talked of all this to a friend. A little in despair, he asked me, how can we teach an emergent-area leadership to make this revolutionary transformation when we do not ourselves know how to make it? How can we shape our knowledge to their needs when we do not know their needs? How can we focus our research powers on their circumstances and their problems when we are not aware of their circumstances or their problems? And this is precisely it. This is precisely the great potential contribution.

The major, the creative task of any educational institution is not to teach but is to seek out, perpetually to discover and to shape that which is to be taught. This is the true and vital issue, the unresolved problem of the institutions of higher learning in India and Mexico, in Ghana and Burma, in Haiti and Guiana . . . not how to teach, but what to teach. Most often those institutions

are dim carbon copies of Cambridge and Oxford, of Harvard, of Barcelona or the Lycées of France. A university is needed that dedicates itself to creating a bridge between the knowledge and techniques of the advanced and the needs and circumstances of the backward, which devotes its resources to creating, shaping, and imparting a body of knowledge suited to the transformation of impoverished societies.

SID

Memo from the Executive Secretary

MEMBERSHIP BONUS

FROM TIME TO TIME we are able to arrange to have publications of various nonprofit organizations, on subjects relating to international development, sent to SID members. The Society for Applied Anthropology, for example, has offered to mail to our members the fall 1960 issue of *"Human Organization."* This is a special issue devoted to "Social Science in Action in Sub-Saharan Africa." You may have received it by the time you get this issue of the *Review*. Many excellent studies are made and published by nonprofit groups in the USA, and usually such groups are anxious to get wide use of their material. We try to limit distribution to items that we think will be of genuine interest to many of our readers.

Sometimes it will be possible for the organization sending you such material to indicate that it came to you because you are a member of SID; in other cases it would be difficult or expensive to include such a notation. You may therefore receive some material without a clear indication of how it happened to be sent to you. If you get a report dealing with some phase of international development from a nonprofit organization in the United States, the probabilities are that it is a result of your membership in the Society. If you received a copy of the same material in some other way, please do not waste the extra copy but give it to someone who can use it.

This type of distribution is often without cost to the Society, or at most the cost of postage. We regard this as a service or bonus you receive from membership. We shall try to be alert to see that you get as much significant material as possible. We always thank the organization providing it, of course, but they would also undoubtedly appreciate a letter from you. If any member of the Society knows of material that might be distributed in this way—especially material published outside the United States—please call it to my attention and I shall see what can be done.

MC

Memo from the Editor

PLEASE INUNDATE!

THOUGH YOUR *Review* seems to be winning a certain international esteem, it is still in a sense as wobbly as a young calf or camel just getting on its legs. The appearance of each issue (and this is only the fourth) has for us the freshness of a miracle. How did we ever get enough money together to print it? How did we ever collect enough good material to fill it?

Of the two uncertainties, the second is the more harrowing to an editor. It was responsible for delaying the present issue. We had enough manuscripts on hand but not enough we thought good enough in the sense of being exactly suited to the *Review*. To be sure of having enough at any given time, we need more than enough.

The fact is, of course, that we do not yet have the reputation of the great scientific journals for which anyone considers it an honor to write, nor can we pay for contributions as the commercial magazines do; and the IRD staff of one is limited in the amount of correspondence and personal contacts it can compass. The net result is that when a promising and promised article is not delivered on time (or perhaps ever) there is a hole in the prospective table of contents that can't be filled.

That this situation is temporary does not make it any less troublesome.

One remedy is for each of you, wherever you are, to become what is called a literary scout for the *Review*. A good many of you write. Some have authored illuminating and highly influential books or papers. Others will; they are at the beginning of a career. Many are in a position to know where significant material on international development lies waiting for a little push to come out of hiding. A few are publishers who might be able to turn material from forthcoming books our way.

This is a plea to keep the *Review* in the forefront of your mind whenever you have something you want to say via such a journal—or know of others who have or should have. We pledge careful consideration of manuscripts and proposals even if you inundate us.

GH

CHAPTER NEWS

SINCE THE EDITOR has not yet worked out specific arrangements for SID chapters to submit reports for use in the *Review*, we can give here only such information as we have gleaned indirectly since our last issue. The article by Reserve Bank Governor H. V. R. Iengar, in our Forum section, is one very solid item of that information.

The Madras Chapter held a meeting December 4, 1960, at which Professor K. B. Madhava led a lively discussion on the growth of domestic savings in India since 1947, the year of independence. Tracing the relationship between the growth of savings and that of national income, he examined national income figures beginning with 1900 and pointed out that the inter-war period was largely one of stagnation during which income remained more or less stationary. The past decade has witnessed a steady upward trend that clearly testifies to the effects of planning and stepping up the rate of investment in the economy. Professor Madhava also emphasized the effect of foreign aid, which has filled the gap between domestic savings and the planned rate of investment. Illustrative tabular material relating to savings in the governmental, corporate, and individual sectors of the economy clearly showed the effect of high taxation on corporate savings.

The Michigan Chapter sent an announcement of its first meeting in 1961—a luncheon on January 27 at Wayne State University at which Dr. Willard A. Hannah of the American Universities Field Staff (just back from South-East Asia) was to speak on the Great Powers conflict in Laos, Vietnam, and neighboring states.

Bruce Smith of Michigan State University, we are advised, has replaced Lawrence J. Witt as Program Chairman of the chapter, Witt having gone to Washington as advisor on the Food for Peace project.

The New York Chapter sent detailed minutes of a panel discussion, at its January 5 meeting, of the proposed youth corps or peace corps. Sixty-five persons attended, and the discussion was so lively that it was to be continued at the next meeting February 2.

New officers elected January 5 were Clarence Senior, President; Alvin Edgell, Secretary; Robert Theobald, Program Chairman; J. Ben Lieberman, Membership Affairs Chairman; and R. W. Hudgens, Executive Committee Chairman, the other members of that committee being Arthur Goldschmidt, Arthur Fletcher, Gordon Alderfer, Theodore Steele, Clarence Thurber.

The first panel speaker at the meeting was Dr. Frank Ferrari, assistant director of the Foundation for Youth Student Affairs, who explored the nature, scope, purpose, and size of the youth corps, and the controversial question of military draft status. Excerpts from his remarks as summarized in the min-

utes: "The need is to match the right individual with the right job. Proper preparations involve correct selection and training for suitability, aptitude and attitude, ability to withstand strain. The job to be done needs to be carefully assessed and defined by the government of the host country and the U.S. agency involved, and then handled by a competent and continuing administration. The size of the corps should be determined by the job to be done. . . . Host countries must first define their needs and the areas in which youth could serve. It would be best to make no issue of the draft-exempt question. The corps must be thought of as more than 'something for U.S. youth' and the question of real motivation of participants must be considered."

Mr. Taylor Ostrander, Assistant to the Chairman of the American Metal Climax Company, "viewed the corps as a secular missionary movement of long-term commitment. If the idea of a youth corps has merit, there must be a practical program as well as enthusiasm, and the kinds of things that have been proposed generally fail of practical application. . . . It was suggested at the Colorado conference that the youth corps might best be used in America itself to give an outlet to enthusiasm—something like a revived CCC—to improve our own social conditions, in urban slums, in the South, and in rural areas. After three years or so spent in this work, under observation and with real studies (including language), the top ten per cent or graduate elite might be sent abroad."

Dr. Thomas Melady (who established the Institute of African Affairs at Duquesne University and is author of the book "Profiles of African Leaders") "distinguished between five groups involved in technical assistance in Ethiopia in 1956 as diplomats, Point IV technicians, businessmen, missionaries, and individual socially-minded Americans. The last group had the advantages of youth, sparkle, humanitarian motivation, and the skills of getting along in the community. There might be an important role for a number of young people beyond these groups, if they care, possess skills, and are truly motivated. By holding to this substance a plan can be worked out despite the warnings raised."

"The initial statements of the panelists" the minutes continued, "provoked a spirited discussion, and the members and guests raised a large number of provocative questions." Among them: "Could an interne program in management or government work? Can we avoid superimposing our ideas on the host country and people? In the relation of the man to the job, is not even three years too short a tour of duty? Would the idea of secular missionaries work—young people willing and able to dedicate their lives to helping others help themselves? What can a small number of teachers really accomplish? . . . Why a U.S. rather than a UN peace corps? Is the value of such a corps really for the U.S. itself? . . . What would host countries really want? How would they utilize the people when they arrive? What administrative organization would undergird such a corps in the USA?"

The Washington Chapter held a well attended evening meeting November 17, 1960, marked by an off-the-record panel discussion of the current political, social, and economic situation in Latin America—the first of a series on "the rising crisis" in that region. Leaders of the discussion were William MacLeish, editor of *Vision Magazine*, New York; Dillon S. Myer, former president of the Institute of Inter-American Affairs, former Commissioner of Public Housing, recently advisor to the government of Venezuela; and Albert Waterston, member of the staff of the World Bank's Economic Development Institute.

CHRONOLOGY

September-December (inclusive) 1960

ABRAHAM M. HIRSCH

GENERAL: As of end August 1960, total amount of currencies purchased from **IMF** and not repurchased equalled $1069 m; amount available to members under stand-by arrangements equivalent to $267 m. Summarizing situation, Per Jacobsson, Man Dir **IMF,** stated in September report that "in considering the problems of the less industrialized countries, it is interesting to note that some of them—notably **Argentina, Colombia, Israel, Malaya, Morocco, Peru,** and the **Sudan**—have succeeded in increasing their gold and foreign exchange reserves quite considerably over the last year. But for the general run of these countries, the picture is quite different. For many of them, reserves are clearly on the low side—& in some cases embarrassingly low." In address to annual meeting, **IBRD** Vice-Pres W. A. B. Iliff noted that 5 years ago **IBRD** had 56 members, had invested ca $2300 m in 37 countries; as of end Sept 1960, membership was 68 nations, and commitments in 53 countries were over $5000 m. International character of Bank emphasized by fact that investors in 40 countries held **IBRD** securities. Iliff hailed birth of **IDA** as milestone in **IBRD's** career./**IDA** reported it had subscriptions equiv to $852 m at end of 1960, mostly payable in convertible currencies; membership stood at 37 (**Australia, Canada, Chile, China (Rep of), Denmark, Finland France, Germany (West), Ghana, Honduras, India, Iran, Iraq, Ireland, Israel, Italy, Japan, Jordan, Malaya, Morocco, Nicaragua, Norway, Pakistan, Philippines, Saudi Arabia, Spain, Sudan, Sweden, Thailand, Tunisia, Turkey, Un of S Africa, United Arab Rep, United Kingdom, United States, Vietnam, Yugoslavia).**

SURVEYS, REPORTS, APPOINTMENTS: **IBRD** general survey mission to **Uganda** begins field work; headed by Edward S. Mason of **Harvard U./IBRD** transportation mission to **Argentina** announced; will conduct 15 month survey of road, rail, water, transp, recommend integrated investment & development plan (Sep)./**IBRD** as executing agent for **UN Special Fund** to conduct detailed geophysical surv of mineral resources of **Surinam; UNSF** to contribute ca half of costs of surv./Report of econ surv mission to **Libya** published: recommends program giving priority to "investment in people"—education & training at all levels (Oct)./**Inter-American Development Bank** sends mission to make 3-month study mineral production & agr. credit in **Bolivia** (Nov.)/Henry R. Labouisse appointed **IBRD** Spec Repres for **Africa,** with hq in Washington, effective Jan 1961. [Ed. note: Jan 1961 appointed Dir **ICA** by President Kennedy.]

ORGANIZATIONAL: **Special Commonwealth African Assistance Plan (SCAAP)** established in London to channel bilateral technical aid (Sep). **Sudan** joins **IFC** (Oct)./**Cuba** withdraws from **IBRD & IFC** (Nov), **Dominican Rep** ditto (Dec)./**El Salvador, Guatemala, Honduras, Nicaragua** draft plan for **Centr Amer Bank for Economic Integration,** with initial cap of $16 m, $10 m of which US intends to contribute (Nov)./**El Salvador, Guatemala, Honduras, Nicaragua** lay groundwork for Central American Common Market; **Costa Rica, Panama** may also join./Convention creating **Organization for Economic Cooperation & Development (OECD)** signed. **OECD** to replace **OEEC,** membership to be identical + **US, Canada.** If ratified by 15 of the 20 prospective members, convention will enter into force beg Sept 1961 (Dec).

IBRD LOANS: $5.4 m, **Colombian** National Railroads, equipment (Sep); $25 m, **Mexico,** highway development; $20 m, **Indian** industrial investment bank (ICICI) (Oct); $25 m, **Norway,** Tokke hydropower project; $5.5 m, **Peru,** road improvement; to **Japan,** $6 m for Kawasaki Steel Co, and $7 m for Sumitomo steel company (Dec).

IFC INVESTMENTS: $200,000, **Chilean** cement plant; $1.875 m, **Finnish** manufacturing company (Sep); $700,000 in **Colombian** metal can plant (Dec).

EXPORT-IMPORT BANK LOANS: $2.3 m, **Spain's** Empresa Nacional Siderúrgica, for purchase US mill equipment; $9.9 m, assist **Ethiopia** in purchase 2 Boeing jetliners; $4.1m; **India,** ditto, 1 jetliner; $22.5 m, assist **UAR** purchase 100 GM diesel electr locomotives + parts & tools; $7.5 m, **Guatemala** purchase of US transp & communic equip; $3.5 m, **Austrian** purch of US cotton (Sept); $6.4 m, **Pakistan** purch of agric equip in US; $4.3 m, **Iran,** ditto; $42 m, private **Chilean** power co, purch US equip; $13.8 m, assist Panair of **Brazil** purch 2 Douglas jetliners; $1 m, assist **Tunisian** purch US agric machinery; **Rs** 20 m (under PL 480), to private **Indian** paper co., for paper and board mill (Oct); $1.5 m, **Colombia's** Cristaleria Peldar, glass-making equip purch; $3.4 m, assist Cie de Transports Aériens Intercontinentaux, **France,** purch 1 Douglas jetliner; $9.3 m, **Japan's** Isuzu Motor Co, purch automotive machinery; $12 m, Sociedad Mixta Siderurgia **Argentina,** purch steel prod equip; $10 m, Industrial Bank of **Argentina,** industrial credit for US purch;

$30 m, **Chilean** State RR, purch US equip (Nov); $1.8 m, **Argentina** private steel pipe co, purch US equip (Dec).

DLF LOANS: $8.9 m, El Al **Israel** Airlines, assist purch 2 Boeing jetliners; $2.8 m, **Honduras'** Empresa Nacional de Energía Eléctrica, hydroelectric proj near Río Lindo; $23 m, **Yugoslavia** plastics & chemical plant; $2.1 m, **Guatemala,** highway improvement; $70 m, **Pakistan,** Indus Basin; $20.5 m, **Chinese** steam power plant (Sep); $5 m, **UAR, Syrian** industrial development; $18 m, **Tunisia,** Oued Nebana hydroeconomic projects; $2.5 m, **UAR, Syrian** tel & tel system develop; $200,000, **UAR's** Edfina Co, food processing develop (Oct); $17.5 m, **Vietnam,** Saigon water supply; $400,000, **Lebanese** aluminum plant; $5.3 m, **Panama,** road building; $6.7 m, **UAR, Egyptian** bagasse pulp plant (Nov); $114.1 m, **India,** 6 loans for several capital projects; $6 m, **Turkey,** RR construction; $4.5 m, **Peru,** improv Central Highway (Dec).

VARIOUS: **West German** estimate indicates that from 1952 to end March 1960, **German** investments abroad totaled ca DM 2450 m. Of this sum, DM 610 m were invested in **S America./**Betw Jan & July 1960, $7.7 m invested in **Taiwan,** acc to **Rep of China** govt; in period 1951-59, outside invest total was $52.44 m, of which $41.7 m by overseas Chinese./**UK** loan to **India,** £5 m, for financing imports from **UK./US & Libya** revise their 1954 agreement: in addition to economic aid, **Libya** to receive $10 m annually for Wheelus base./**UN Special Fund** grants **Rep of China** $321,450 for several hydroeconomic projects./**US & Guinea** sign technical assist agreement (Sep)./**Iran-Japan** agreement to incr trade; extends to **Iran** $30 m credit./**Czech** credit to **Iraq,** $33.6 m, for equipment & tech services in dev of petroleum industry & electric power (Oct)./ **Italian** Ente Nazionale Idrocarburi to build in **Ghana** £G 8.5 m oil refinery (Nov)./ To relieve effects of drought, **US** to ship to **Cyprus** 50,000 t wheat & barley./ **USSR** to aid **Ghana** in several projects, such as Bui dam over Volta R, housing & hotel in Accra (Dec).

OTHER: President Nkrumah in radio address denies **Ghana** intends to nationalize foreign companies./**Ghana** buys out 40% share held by **Israel** in **Ghana** National Shipping Co. (Black Star Line) (Oct)./ A directive by President Eisenhower, seeking to reduce deficit in **US** balance of payments, inter alia instructs **ICA** to emphasize **US** goods & services, and limit non-**US** procurement, in its programs as of 1961./**Thailand** announces 6-yr plan to begin Oct 1961; will seek 5% annual incr in GNP, 3% incr in per cap income; industrial share to be increased from 10% to 12% of GNP (Nov)./ **IBRD's Economic Development Institute** to provide selected agencies and institutions, officials of which are graduates of **EDI,** with 400-item English-language libraries on economic and developmental subjects; Rockefeller Fdn underwriting ½ cost./**Japan** adopts new 10-yr plan, designed to bring GNP to ¥ 2600 m by 1970, about double 1960 GNP; plan will seek to expand social overhead capital, intensify most productive industrial sectors, promote foreign trade, improve quality of labor, increase lot of low-income groups (Dec).

NOTICES

Training Programs in International Development and Overseas Service in U.S. and Canadian Universities

ANDREW E. RICE

A. International Development Programs

INSTITUTION: **Cornell University—New York State College of Agriculture**—Rural Education Department, Extension Education Division—*Ithaca, New York./* PROGRAM: **Comparative Extension Education Seminar./** DESCRIPTION: The Seminar deals with the development of extension education in various cultures, in different circumstances of economic, social, and political situations, and in different agricultural resource environments. The program is intended primarily for administrators of land-grant colleges and extension services in the United States or rural development or extension services of countries abroad, for administrators of other United States and foreign agencies and institutions engaged in promoting rural improvement in less developed countries, and for interested persons in other disciplines (e.g., sociology, cultural anthropology, economics). The central objective is to help participants develop a philosophy, a background of knowledge, and professional skill that will enable them to initiate, organize, and administer programs of extension or rural development in other countries. The Seminar runs two consecutive semesters, during which it serves as the core of an interdisciplinary and interdepartmental program of study./ FOR FURTHER INFORMATION ADDRESS: **Dr. John M. Fenley.**

INSTITUTION: **Duke University**—*Durham, North Carolina/* PROGRAM: **Workshop in Economic Development/** DESCRIPTION: The workshop program comprises one three-hour semester course on economic development and a year's program devoted to initiating and getting under way research and dissertation writing in the candidate's second year. Individuals working in this area take at least five courses in economic theory, specialized work in two fields of economics, and often cognate work in economic history and demography. Only good students who expect to complete the doctoral degree are accommodated./ FOR FURTHER INFORMATION ADDRESS: **Dr. J. J. Spengler and Dr. Frank T. de Vyver**

INSTITUTION: **Michigan State University—Economics Department**—*East Lansing, Michigan/* PROGRAM: **Graduate Workshop in Development of Underdeveloped Areas/** DESCRIPTION: This program will be offered during the summer session, 1961, under the leadership of Professor Bert F. Hoselitz, a distinguished visiting professor from the University of Chicago. The program will be designed for students from various disciplines and areas. The principal course will provide a common core of reading, discussion, and lectures for all students. In addition, each student will undertake a paper related to development in the subject matter area in which he seeks credit (e.g., history, economics, political science, sociology, etc.) In addition, students will be urged to take a regularly offered complementary course related to economic development, area study, or international relations. The program will last for five weeks. Its central purpose is that of providing a cohesive body of experience for graduate students with a special interest in the problems of a developing area./ FOR FURTHER INFORMATION ADDRESS: **Professor John M. Hunter**

INSTITUTION: **Princeton University—Office of Population Research**—*Princeton, New Jersey/* PROGRAM: **Training program in population for demographers from underdeveloped countries/** DESCRIPTION: This is an informal program, leading to a degree or certificate, which provides training in demography for six to eight foreign students every year. These students come to Princeton as visiting fellows with fellowships from the Population Council, Rockefeller Foundation, Commonwealth Fund, etc. The purpose is to train the participants so that they will be better qualified to deal

EDITOR'S NOTE: *Universities in the United States and Canada, already deeply involved in operational aspects of international development, have also been creating a variety of new training programs for present and future practitioners in the development field. The following descriptive listing, compiled for IDR by Andrew E. Rice, comprises two kinds of offerings by U.S. and Canadian universities: (1) Teaching programs dealing with general or special aspects of economic development in underdeveloped areas (but not including area study programs per se or contract or advisory programs overseas) and (2) Programs designed to prepare Americans for service abroad in underdeveloped areas.*

Programs have here been identified as offerings above the undergraduate level which are more than one or a series of individual uncoordinated courses. They appear under a variety of names; some offer training for a few weeks, others for several years; some lead to degrees, others do not. Since this is a pioneer compilation, some programs undoubtedly, although inadvertently, have been overlooked. Information on these will be gratefully received by the editor for future publication.

The listing under the Graduate School of the U.S. Department of Agriculture was added after Mr. Rice's material was prepared. So far as we know this is the only correspondence course at the graduate level conducted especially for field workers.

A Note on Area Studies Programs has also been added to help round out the information.

with demographic problems in their home countries. The duration is typically one year and the content consists of two seminars in demography, a supervised research project for each student, and additional courses or seminars in mathematics, statistics, economics, or sociology, depending on the individual student's needs and background./ FOR FURTHER INFORMATION ADDRESS: **Professor Ansley Coale**

INSTITUTION: **San Francisco State College**—see entry in **B. Overseas Service Programs.**

INSTITUTION: **University of British Columbia**—*Vancouver, Canada*/ PROGRAM (1) **Regional Training Centre for United Nations Fellows**/ DESCRIPTION: The Centre is responsible for the organization and direction of individual training programs for senior government officials from less developed countries who have been awarded United Nations fellowships. Training is arranged with universities, government agencies, and private industry as appropriate and usually covers a period of six months. The program is generally arranged to give each fellow training in both western Canada and the United States. The programs arranged by the Centre cover the broad fields of economic development—including industrial and resource development, public administration, and social welfare./ FOR FURTHER INFORMATION ADDRESS: **H. L. Maggs, Administrative Officer**

PROGRAM (2): **Special Training Program in Community and Regional Planning.** DESCRIPTION: The purpose of the program, which is under the auspices of the Economic and Technical Assistance Branch of the Canadian Government, is to train personnel from developing countries in physical planning. The training is geared to the needs and conditions of the developing countries and takes into account the pressing problems of urbanization, the differences in the physical environment and the factors affecting it, and the general lack of trained personnel. The program is developed through lectures, seminars, and workshop projects. During the program each student is also given a period of in-service training with local planning agencies. The duration of the program is one year with an average of ten students a year. The students are initially selected by their governments and are employed in community planning or some related field. They are then nominated to the Canadian Government, which in cooperation with the University of British Columbia, makes a final selection of the students to be offered the training program./ FOR FURTHER INFORMATION ADDRESS: **Professor Ira Robinson**

INSTITUTION: **University of Michigan—Department of Economics**—*Ann Arbor, Michigan*/ PROGRAM: **Doctoral Program in Development Economics**/ DESCRIPTION: Students working for a Ph.D. in economics who enter the program take several courses in this field as well as related courses in international economics and in other departments. They also do major work in economic theory and in one of the other fields of economics currently offered. Fellowships under the National Defense Education Act are available for study beginning in September 1961. Students in development economics are encouraged to concentrate on particular geographic regions, doing cognate work and undertaking research on the economics of those regions. For doctoral students wishing to become area specialists in addition to earning a Ph.D. in economics, additional work is arranged in one of the area programs at the University of Michigan dealing with the Near East, China, Japan, Southern Asia, or the Soviet Union. Such a combined program, however, takes a minimum of four years of graduate study rather than the usual three-year minimum for a Ph.D. in economics./ FOR FURTHER INFORMATION ADDRESS: **Professor Samuel P. Hayes**

INSTITUTION: **University of Michigan—School of Social Work**—*Ann Arbor, Michigan*/ PROGRAM: **Seminar on Community Development in Newly Developing Countries**/ DESCRIPTION: A two-week summer seminar limited to about 20 individuals, both American and non-American, professionally concerned or expecting to be professionally concerned with community development in less developed areas./ FOR FURTHER INFORMATION ADDRESS: **Professor Arthur Dunham**

INSTITUTION: **University of Pittsburgh—Graduate School of Public and International Affairs**—*Pittsburgh 13, Pennsylvania*/ PROGRAM (1): **Economic and Social Development**/ DESCRIPTION: The purpose of the Economic and Social Development concentration is to respond to the compelling need for trained national leaders and overseas advisors who are (1) dedicated to the enhancement of human dignity and well being for all peoples, and (2) professionally competent to provide informed direction for the developmental process. This involves planning, programming, organizing, and executing both comprehensive and sectorial development activities. The concentration in Economic and Social Development is an integral part of the School's total effort to educate for the "administration of change." Because the concentration is concerned with the entire range of factors—political, social, economic, cultural, technological, ethical, and administrative—which condition the process of growth and modernization in the developing countries of Asia, Africa, and Latin America, instruction is organized along multidisciplinary and interprofessional lines so that insights from many areas may be focused on this complex and difficult subject matter. This concentration is especially designed for persons from rapidly developing societies who are or will soon become government officials, and for persons from the United States who are engaged or plan to engage in development or technical assistance programs. The degree of Master of Public and International Affairs is awarded when a student has completed three trimesters (11 months) of study, plus field work. One trimester is waived in the case of experienced persons or advanced students. A recent Ford Foundation grant will enable the School during each of the next five years to provide a number of fellowships to outstanding American candidates for the Master's and Doctoral degrees./ FOR FURTHER INFORMATION ADDRESS: **Dean Donald C. Stone**

PROGRAM (2): **Institute in Economic, Social and Industrial Development**/ DESCRIPTION: This Institute (May 8-July 28, 1961) is especially designed for senior foreign and United States government officials, business and industrial leaders, and experts of voluntary organizations who desire an intensive survey of the processes of developmental programming and administration that will prepare them for advanced professional responsibilities in the developing countries of Asia, Africa, Latin America, and the Middle East. The Pittsburgh program analyzes the entire range of factors—political, social, economic, cultural, and administrative—that condition the process of rapid economic growth and democratic social change in the developing countries. The Institute accents both the what and the how of developmental planning and operations. During the twelve-week course, members travel to a developing country for a direct laboratory experience in an on-going center of rapid economic development and social change. The first Institute, held in 1960, spent two weeks in Puerto Rico examining and evaluating some of the problems and operational approaches that have been attempted there. The 1961 members will visit Jamaica. A recent Ford Foundation grant will enable the School to offer several tuition fellowships to qualified and experienced American officials./ FOR FURTHER INFORMATION ADDRESS: **Dean Donald C. Stone**

INSTITUTION: **Vanderbilt University**—*Nashville 5, Tennessee*/ PROGRAM: **Graduate Program in Economic Development**/ DESCRIPTION: An eleven-month program leading to the Master's degree. The objectives of the program are, first, to strengthen the individual's command of the tools of economic analysis so he may better understand the process of economic growth; secondly, to sharpen his capacity for analysis of policy problems in the monetary, fiscal, trade, and agricultural sectors of the underdeveloped countries; and thirdly, to acquaint him with the administrative aspects of economic development programming. Approximately 25 foreign students and 5 Americans are admitted; the foreign students are sponsored by various agencies (ICA, USIA, OAS, UNTAA, Ford Foundation) and the Americans by the National Defense Education Act. Three-fourths of the foreign students have been junior or middle-level government officers and the remainder college teachers./ FOR FURTHER INFORMATION ADDRESS: **Dr. Reynold E. Carlson**

INSTITUTION: **Williams College**—Williamstown, *Massachusetts*/ PROGRAM: **Center for Development Economics**/ DESCRIPTION: The Center provides a training program of one academic year for not more than 20 students from underdeveloped countries, to prepare them to enter positions of responsibility in public economic administration, research, and planning, or similar positions in business firms and other private organizations prominent in the economic development of their countries. Candidates for admission must hold a B.A. degree or its equivalent, and preference is given to applicants between the ages of 24 and 30. The program leads to the degree of Master of Arts in Development Economics./ FOR FURTHER INFORMATION ADDRESS: **Dr. Robert R. R. Brooks, Director of Graduate Training**

INSTITUTION: **Yale University—Department of Economics**—*New Haven, Connecticut*/ PROGRAM: **Program in International and Foreign Economic Administration**/ DESCRIPTION: The program is designed to provide advanced training for able young economists employed by national governments outside the United States, or by international economic organizations. Most students in the program have come from central banks, finance ministries, planning boards, development banks, and other development agencies. The program emphasizes integration of theory and policy, particularly in the monetary and financial fields and in economic development. Special attention is given to modern developments in national accounting and statistics and their bearing on economic analysis and policy formation. Candidates must have a B.A. degree or its equivalent and have had previous training in economics equal at least to a major in that field. They must normally be nominated by the employing agency or institution and are usually financed wholly or partly by their employer during their study leave./ FOR FURTHER INFORMATION ADDRESS: **Professor Lloyd G. Reynolds**

B. Overseas Service Programs

INSTITUTION: **The American University—School of International Service**—*Washington 16, D.C.*/ PROGRAM (1): **Overseas Representation**/ DESCRIPTION: The two-year program leading to the degree of Master of International Service is designed for work in USIA, as foreign correspondent of a newspaper, or as community relations officer of a business overseas. It combines intensive study and cultural analysis of the area and communications, with the appropriate language. Included also are seminars in interpreting American civilization while abroad, in world communism, and in overseas labor. Options are offered for Latin America, the Middle East, Africa, South and Southeast Asia, and the Far East./ FOR FURTHER INFORMATION ADDRESS: **Professor Ralph W. Powell**

PROGRAM (2): **Business Council for International Understanding—Training Program for International Business Executives**/ DESCRIPTION: A 4- to 8-week program for business executives planning overseas work. It includes substantial work in understanding other cultures, in interpreting American civilization, and in the study of the area to which the executive is to be assigned. The second 4 weeks are optional and deal intensively with the language of the area. Groups of from 10 to 25 executives register for the program, given five times a year. During the final week a special program for the wives is included./ FOR FURTHER INFORMATION ADDRESS: **Professor Harold Randall**

PROGRAM (3): **Business Representation Overseas**/ DESCRIPTION: The two-year program leading to the degree of Master of International Service combines business administration (in cooperation with the School of Business Administration) and overseasmanship with intensive study of the area in which the student plans his assignment. Specializations are offered in Middle East, South and Southeast Asia, the Far East, Latin America and Africa. Language training is available for each of these areas. Those specifically planning work in underdeveloped countries include up to a total of 12 hours of course and seminar work in the economic problems of such countries in addition to specific consideration of the developmental problems of the area of assignment. Junior employees of business firms may undertake an abbreviated area-language program for a period of a single academic year. Under certain circumstances this would lead to a Master of Arts degree in Area Studies./ FOR FURTHER INFORMATION ADDRESS: **Otto Schaler, Director**

PROGRAM (4): **International Administration**/ DESCRIPTION: The two-year program leading to the degree of Master of International Service, offered in cooperation with the School of Government and Public Administration, integrates the fields of public administration, comparative government, international relations and organization, and area studies. A special sequence is available for those wishing to enter a career in the International Cooperation Administration, including substantial work in the economics of underdeveloped areas./ FOR FURTHER INFORMATION ADDRESS: **Dean Richard W. Van Wagenen**

PROGRAM (5): **Church Missions**/ DESCRIPTION: A two-year program leading to the degree of Master of International Service, offered in cooperation with the Wesley Theological Seminary. The program combines distinctive missionary training with intensive study of the area to which the student is to be assigned. A language of the area is an integral part of the training. In addition the student is required to include at least one course in the economics of underdeveloped areas and another course in communist theory and practice. The approach of the program is that of cultural analysis./ FOR FURTHER INFORMATION ADDRESS: **Professor James H. Pyke**

PROGRAM (6): **Overseas and International Labor**/ DESCRIPTION: The two-year program leading to the degree of Master of International Service combines a mastery of the field of labor economics and relations with special reference to international and comparative labor movements, American foreign policy, cultural analysis, and world communism. A student particularly concerned with underdeveloped areas has open to him up to 12 semester hours of course work in the economic development of such areas, together with special area courses emphasizing labor in the Middle East, Latin America, South and Southeast Asia, Africa, and the Far East. Language appropriate to the area is required. By arrangement with the AFL/CIO a program lasting one calendar year is available for union leaders on leave who plan liaison work with labor movements overseas. Under certain circumstances this would lead to a degree./ FOR FURTHER INFORMATION ADDRESS: **Professor Philip M. Kaiser**

INSTITUTION: **Boston University—Center for Development Research and Training**—*Boston 15, Massachusetts*/ PROGRAM: **African Studies Program**/ DESCRIPTION: Under a contract with ICA, the Center conducts an eight-week training program in Boston for ICA officials who are to be assigned to Africa. Staff members of the Boston University African Studies Program and many outside experts are employed to give the trainees an understanding of political, economic, social, and cultural aspects of Africa south of the Sahara through lectures, discussion groups, and case studies of technical aid. From time to time under Center supervision, a European and an African phase follow. During the European phase the participants study and confer with officials and businessmen with African experience. They proceed then to Africa for further study and first-hand observation before receiving their final assignments./ FOR FURTHER INFORMATION ADDRESS: **Dr. John D. Montgomery, Director**

INSTITUTION: **Graduate School of the U.S. Department of Agriculture**—*South Building, U.S. Department of Agriculture, Washington 25, D.C.*/ PROGRAM: **Correspondence Course in Directed Change in Contemporary Cultures**/ DESCRIPTION: The course earns 2 credits and is given in 16 lessons by M. L. Wilson and Thelma Dreis. The students are persons engaged in technical assistance work in the field. Attention is directed primarily to non-Western cultures, with emphasis on underlying principles of social change and their application to institutional arrangements in different countries, especially in relation to community development and extension services. About half the lessons consist of background reading and half are concerned with actual practice. Problems are presented for each lesson. In lieu of an examination, the student prepares a course paper, which is turned in as the last lesson./ FOR FURTHER INFORMATION ADDRESS: **Graduate School, U.S. Department of Agriculture**

INSTITUTION: **Johns Hopkins University—School of Advanced International Studies**—*1900 Florida Avenue, N.W., Washington 9, D.C.*/ PROGRAM: **Institute on ICA Development Programming**/ DESCRIPTION: The Institute offers mid-career training for program officers and technicians of the International Cooperation Administration. Participants assigned to the Institute are normally from 33 to 53 years old with four or more years of overseas experience. The 21-week program (offered twice a year) is designed to increase effectiveness in planning and executing foreign economic and technical aid operations. Two major courses, one on the Economics of Development Programming, the other on the Culture and Politics of Economic Development, are supplemented by workshops, guided reading, and individual work assignments./ FOR FURTHER INFORMATION ADDRESS: **Dr. W. T. Phillips, Director**

INSTITUTION: **Montana State College—International Cooperation Center**—*Bozeman, Montana*/ PROGRAM: **International Technical Training Program**/ DESCRIPTION: The program is designed for United States College graduates interested in a career in international technical cooperation. Advanced study is provided leading to a master's degree in Agriculture, Engineering, Education, Health Education, and Home Economics. The program of instruction is in three parts: courses in the technical fields, courses in cross-cultural communication and language, and field projects in the United States and Mexico. Two-year fellowships are available and applications must be completed by March 1 for the class beginning on June 15./ FOR FURTHER INFORMATION ADDRESS: **Dr. Harvey F. Baty, Director**

INSTITUTION: **San Francisco State College—School of World Business and International Development**—*1600 Holloway, San Francisco 27, California*/ PROGRAM: **Economic Development and Overseas Service**/ DESCRIPTION: A two-year master's degree program is offered, with specialization if desired in one of the four world areas: Latin America, Asia-Far East, Africa-Middle East, and Europe-USSR. The fourth area specialization, primarily a developed area, includes a study of European and USSR international development activities in Asia and Africa. A special one-year program is also available leading to a different master's degree for those with appropriate undergraduate training; and specialized work can be taken by those not seeking a degree. The programs have a dual purpose—(a) to train Americans for international programs or overseas service in the underdeveloped areas, and (b) to train nationals of the countries concerned. Both types of students are trained together in the same area development, management, and economics seminars. Training mixed seminars facilitates understanding by Americans of the overseas point of view and helps overseas students to be sophisticated on economic panaceas and communism while they learn at the same time how to utilize most effectively American private enterprise capital./ FOR FURTHER INFORMATION ADDRESS: **Wayne M. Stevens, Director**

INSTITUTION: **Syracuse University—Maxwell Graduate School**—*Syracuse 10, New York*/ PROGRAM: **Maxwell Graduate Overseas Training Program**/ DESCRIPTION: Only students with an undergraduate degree plus at least thirty hours of graduate credit (or equivalent in experience) in such disciplines as economics, public and business administration, agriculture, journalism, engineering, law, public health, etc., are eligible. Admission is by application and

the number is limited. In 1961 the Program will be held in Nigeria. The students will spend 5 weeks in an intensive integrating seminar at Syracuse beginning in June, then travel as a group to Nigeria to pursue individual research-internship projects for 10 weeks. During the 5-week period of daily study there will be intensive language concentration stressing conversational facility. The study abroad is not aimed at specialization in depth in the culture and life of a particular country, but rather to help the student acquire familiarity with the practical conduct of American activities overseas and to develop an "approach" based on cultural empathy to the patterns of living of foreign peoples./ FOR FURTHER INFORMATION ADDRESS: **Professor Gerard J. Mangone, Director**

INSTITUTION: **Texas Agricultural and Mechanical College—Office of Foreign Programs**—*College Station, Texas*/ PROGRAM: **Preparation for Service in Underdeveloped Areas**/ DESCRIPTION: Texas A & M is developing three courses especially designed to give its technical students preparation for service in underdeveloped areas abroad. Based on practical experience to date, the offerings deal with the basic elements of economic development, cultural adjustment, and planned technical change. In addition, a special in-service training program is provided for faculty members and their families assigned to East Pakistan and Ceylon./ FOR FURTHER INFORMATION ADDRESS: **Professor Jack D. Gray**

INSTITUTION: **University of Hawaii—Centre for Cultural and Technical Interchange between East and West**—*Honolulu 14, Hawaii*/ PROGRAM: **Overseas Operations Program**/ DESCRIPTION: The Overseas Operations program is an individual study plan leading to the M.A. degree, designed to prepare selected graduate students for service in Asia with international organizations, agencies of the United States government, and private institutions and industries that operate in the area. In conjunction with the objectives of the program, courses of study offered in Asian studies are coordinated and utilized to better fit selected students for service in Asia. There is no set curriculum. Each program for the individual graduate student will be tailored to fit the student's particular needs. Asian language programs are particularly stressed, and the student must demonstrate a real fluency in at least one of the Asian languages before the degree will be granted. Students will also be expected to engage in more intensive work connected with their individual specialties as these relate to Asia. No thesis is required for the degree. However, within the 36 required credit hours each student must serve a limited time in an internship in the field./ FOR FURTHER INFORMATION ADDRESS: **Dr. John Stalker, Director**

INSTITUTION: **University of Pittsburgh—Graduate School of Public and International Affairs**—*Pittsburgh 13, Pennsylvania*/ PROGRAM: **Administration of International Affairs**/ DESCRIPTION: The curriculum features new dimensions of international training. It seeks to increase not only the individual's capacity to understand the determinants of international conduct and security, but also his capacity to participate effectively in international and cross-cultural operations aiming at the construction of peaceful and cooperating societies. The concentration offers two major features: (1) foreign policy formulation and execution, diplomacy and negotiation, and the role and functioning of international organizations; (2) processes and procedures of inter-cultural communication, the role of psychological or cultural factors in international relations, and techniques in cross-cultural operations. To provide an optimum learning atmosphere, the concentration offers a varied range of advanced seminars, individual research projects, field work, internship experiences, study trips to the United Nations, to Washington, D. C., or to institutions and agencies in other locations, and frequent opportunities to meet with and learn from distinguished foreign and American visitors. Study in this concentration prepares students for professional work in the foreign services or agencies of various nations, in the United Nations and its specialized agencies, in regional organizations, and in international research, information, or technical assistance programs. The Master's program ordinarily requires three trimesters (eleven months) of study plus field work, internship, or thesis. Experienced persons or advanced students may apply for a waiver of one trimester. A recent grant by the Heinz Endowment enables the School to offer a number of fellowships to outstanding men and women who wish to prepare for international service./ FOR FURTHER INFORMATION ADDRESS: **Dean Donald C. Stone**

Note on Area Studies Programs

IN CHAPTER XV of "The Overseas Americans," Cleveland, Mangone, and Adams argue that area studies programs in American universities have to date attracted as students primarily those who expect to be lifetime scholars of particular foreign areas. They also argue that if area studies programs are to make their proper contribution to American universities, they should direct major attention to two additional audiences: the undergraduate student seeking a general or liberal education, and the student in the professional schools studying agriculture, education, public health, administration, and the like, the products of which are increasingly drawn on for service abroad in development programs. On page 220 of this book there is a listing of some of the major university foreign area programs in the USA, and on page 223 a listing of the academic disciplines included in such programs.

As the term "area studies" is currently used in American universities it usually means the adding of competence on a foreign area or culture (for example, South Asia) to competence in a discipline (for example, political science, economics). The development of foreign area studies programs in the United States is, of course, a relatively new educational venture and has occurred primarily since the end of the Second World War.

Columbia's and Harvard's Russian studies centers were among the earliest to be established in the post-war period. Major Russian and East European centers now also exist at the University of California and the University of Indiana. Far Eastern studies, including China and Japan, have also been developed at Columbia, Harvard, Cornell, California, Michigan, Chicago, and the University of Washington. South and Southeast Asia centers now exist at Yale, Cornell, Pennsylvania, Johns Hopkins, Chicago, Wisconsin, Michigan, and California. Near Eastern studies have been developed at Michigan, the University of California at Los Angeles, Columbia, Princeton, and Harvard. McGill University in Montreal has a major Islamic Studies Institute. African studies programs have been developed at a large number of universities, including Northwestern, Boston, and UCLA. Latin American studies programs are also found at UCLA, Berkeley, Indiana, Tulane, Tennessee, and Wisconsin.

The large foundations have played an instrumental role in the development of area studies programs, with Carnegie, Rockefeller, and Ford all playing a major part. The Ford Foundation has recently embarked on a program of long-term support to area studies programs and has made major grants extending to ten years to Harvard, Columbia, California, Chicago, Northwestern, and Pennsylvania for a number of such programs in each university.

Use of UNESCO BOOK COUPONS to pay SID dues in other than U. S. currency

THE FOLLOWING INFORMATION *is abstracted from the pamphlet, "The UNESCO Coupon," published by the United Nations Educational Scientific and Cultural Organization.*

Unesco issues three kinds of coupons: Book Coupons, Film Coupons, and Coupons for Scientific Materials.

Book Coupons may be used not only to buy books, periodicals, and certain other materials but also to pay for membership subscriptions in learned societies, provided that (as in the case of SID) such subscriptions are mainly a means of obtaining the publications of the Society.

Book Coupons may be used by both individuals and institutions. They are issued in values of U. S. $1000, $100, $30, $10, $3, $1, and blank coupons, which may be made out for 1 cent to 99 cents U. S. In each participating country coupons will be sold for the national currency at the official dollar rate on the day of sale. In some countries the national distributing body adds a surcharge to the price of the coupon, but this

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Correspondence on the coupon scheme may be addressed to Unesco Coupon Office, place de Fontenoy, Paris 7°, France.

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Cambodia:
(a) Ministère de l'Education Nationale de la Jeunesse—Phnompenh

Canada:
(b) Canadian Retail Booksellers Association—c/o W. H. Smith & Son (Canada) Ltd.—244 Yonge Street—Toronto, Ontario

Ceylon:
(a) The University Book Shop—University of Ceylon—Colombo
(b) Orders may be sent to any publisher or bookseller

Czechoslovakia:
(b) Orders should be sent to ARTIA—Vě Směkách—Praha 2

Denmark:
(b) Orders may be sent to any supplier

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(a) Direction des Bibliothèques de France—Service des Bons de l'Unesco—61 rue de Richelieu—Paris 2°
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(a) Deutsche Forschungsgemeinshaft—Frankengraben 40—Bad Godesberg bei Bonn
(b) Orders may be sent to any publisher or bookseller, or to Börsenverein deutscher Verlager- und Buchhändler Verbände—Grosser Hirschgraben 17-19—Frankfurt am Main

Hungary:
(b) Orders should be sent to KULTURA—P.O.B. 149—Budapest 62

India:
(a) Ministry of Education—New Delhi 3; or Unesco Science Cooperation Office—21 Curzon Street—New Delhi 2
(b) Orders may be sent to any publisher or bookseller

Indonesia:
(a) Unesco Science Cooperation Office—P. O. Box 2313—Djakarta

Italy:
(a) Commissione Nazionale dell' Unesco—27 Via Calamatta—Roma
(b) Orders may be sent to any publisher or bookseller

Japan:
(a) Japan Society for the Promotion of Science (Nihon Gakujutsu Shinko-Kai)—Ueno Park—Daito-ku—Tokyo
(b) Orders may be sent to any publisher or bookseller; or to Japan Publications Trading Co. Ltd.—1 Sarugaku-cho—1 chome—Kanda—Chiyoda-ku—Tokyo

Mexico:
(b) Orders may be sent to Exportadora de Publicaciones Mexicanas, S.A.—Altamirand 127—Mexico 4, D.F.; or to Libreria Europa—Av. Gutenberg 60 b—Mexico City

Monaco:
(a) Commission Nationale de l'Unesco—Ministère d'État—Monaco

Morocco:
(a) Commission Nationale Marocaine—1 rue Buffon—Rabat

Netherlands:
(b) Orders may be sent to any publisher or bookseller; or to Stichting Grafisch Exportcentrum—N. Z. Voorburgwal 58/60—Amsterdam-C

Sudan:
(a) UN Technical Assistance Board—P. O. Box 913—Khartoum

Sweden:
(b) Orders may be sent to any supplier

Switzerland:
(b) Orders may be sent to any publisher or bookseller

Thailand:
(b) Orders may be sent to any publisher or bookseller

Tunisia:
(a) Ministère de l'Éducation Nationale—boulevard Farhat Hached—Tunis

Turkey:
(a) Bibliothèque Nationale (Milli Kutuphane)—Ankara
(b) Orders may be sent to any publisher or bookseller

United Arab Republic:
(a) Administration of General Culture—Ministry of Education—Cairo (Egypt); or Unesco Science Cooperation Office—8 Sh. el Salamlik—Garden City—Cairo (Egypt)
(b) Orders may be sent to any publisher or bookseller

United Kingdom: (including British Commonwealth & Trust Territories)
(a) United Nations Association—25 Charles Street—London W. 1
(b) Orders may be sent to any publisher or bookseller, or to United Nations Association—25 Charles Street—London W. 1

U.S.A.:
(a) Unesco Office—UN Building, Room 2201—New York 17—NY
(b) Orders may be sent to any publisher or bookseller; or to Acme Code Co.—507 West 33rd Street—New York 1—NY; or to Unesco Publications Center—801 Third Avenue—New York 22—NY

Vietnam:
(a) Commission Nationale pour l'Unesco—Ministère de l'Éducation—266 rue Cong Ly—Saigon

BOOKS

WE GRATEFULLY ACKNOWLEDGE receipt of the following recent books from the publishers. Unless otherwise noted, the annotations enclosed in quotation marks are drawn either from the introduction (or preface) to the book or from the publisher's descriptive material. SID members are indicated by a small circle supra°.

Paul A. Baran. The Political Economy of Growth. Prometheus Books, 1960. 308 pp., paper. $1.95. "The issue is how each society generates and utilizes its economic surplus. . . . Just as the transition from feudalism to capitalism was marked by tremendous upheavals, so can the present turmoil in the world be understood only as the reflection of similar processes. . . . Paul R. Baran has been Professor of Economics at Stanford University since 1949. . . . [He] is probably the only Marxian social scientist teaching at a large American university."

Raymond A. Bauer & Ithiel de Sola Pool. American Businessmen and International Trade. Free Press, Glencoe, Illinois, 1960. 145 pp. $6.00. "This volume presents the code book and marginals from a survey [conducted by the Center for International Studies, Massachusetts Institute of Technology] of 900 American business leaders concerning their communications and attitudes on international trade. The report of our research will appear in another volume to which, in effect, this is an appendix."

Murray D. Brice. Industrial Development: a Guide for Accelerating Economic Growth. McGraw-Hill Book Company, 1960. 282 pp. $7.50. The author "is a Canadian economist who joined the staff of the World Bank in 1951. . . . From 1957 to 1959 [he] was an economic advisor to the government of Burma. He is now on the staff of the Arthur D. Little . . . organization. . . . Faced with the fact that no book existed to meet the

needs of *all* who are concerned with the many ramifications of industrial development in the complex economics of the world today, [he] decided to write [such] a book . . . a practical, down-to-earth book which [would] help governments and organizations, private and public, to work more effectively together."

Jane Dustan & Barbara Makanowitzky. Training Managers Abroad. 2 vols. Council for International Progress in Management, 1960. 527 + lxi pp., paper. $12.50. "A unique research report on over 450 international management training and development programs of private and government organizations throughout the world. Financed by the Ford Foundation, this book brings together for the first time information on international training activities of companies, universities, governments, banks, foundations, and many other organizations." Focus is on *management* training. Describes the activities of each organization separately. No general summary. Bibliography and a brief bibliography on scholarships; index by organizations and countries.

Walter Firey. Man, Mind and Land: a Theory of Resource Use. Free Press, Glencoe, Illinois, 1960. 256 pp. $6.00. Review by Marion Clawson: "An ambitious and important book—more ambitious than important, but still important. The author sets out to develop a truly comprehensive and all-inclusive theory of resource use. He includes ecological considerations—what is possible in a given situation; the ethnological, or what is acceptable; and the economic, or what is profitable. He points out that these three considerations do not in general lead to identical results; that one without the others is barren. In addition to this scope, the author tries to develop a theory of timeless applicability. 'These hypotheses purport to be universally true descriptions of the activities of human beings as resource users.' The treatment is primarily theoretical. The book provides a valuable antidote to the highly specialized approaches that are so common and a useful theoretical catholicism for the practical technical assistance worker trying to carry out a specific program in a strange environment and culture. With such an ambitious purpose, it is scarcely surprising that the book does not quite live up to the author's ambitions, but one must admire his courage and effort. The book is well worth reading."

Embassy of France, Press and Information Service, New York. Hour of Independence series. The Central African Republic (Dec. 1960). The Republic of Senegal (Dec. 1960). The Republic of Mauritania (Nov. 1960). The Republic of Upper Volta (Oct. 1960). The Malagasy Republic (Sept. 1960). The Press and Information Service of the Embassy of France is outstanding for the quality of its public relations work through such brochures as these—attractively designed, printed by offset, full of excellent photographs (especially of ordinary folk in each country), and containing facts and figures presented in brief text.

Charles M. Hardin,° ed. Agricultural Policy, Politics, and the Public Interest. Annals of the American Academy of Political and Social Science, 1960. 188 pp. $2.00 paper, $3.00 cloth. A penetrating critical survey of recent U.S. agricultural policy together with proposals for change. Paying special attention to the surplus problem and the relation of U.S. agriculture to world affairs, the symposium includes 21 articles (plus a bibliography) by 23 distinguished experts.

Bert F. Hoselitz,° ed. Theories of Economic Growth. Free Press, Glencoe, Illinois, 1960. 344 pp. $7.50. The contributors are Henry J. Bruton, John Buttrick, Bert F. Hoselitz, J. M. Letiche, Erskine McKinley, Joseph J. Spengler. "Here are the theories of Adam Smith and David Ricardo, of John Stuart Mill, of the English Classical School, of the German historical school, of the Neoclassical school and of contemporary theorists . . . in [a] clear summary [by] some of today's outstanding scholars." (The cerise book jacket, incidentally, is one of the most colorful we have seen.)

Nicholas Kaldor. Essays on Economic Stability and Growth. 302 pp., $6.75. Essays on Value and Distribution. 238 pp., $6.00. Free Press, Glencoe, Illinois, 1960. Two collections of essays written over a period of years—the first "a product of the intellectual revolution set in train by the publication of J. M. Keynes' 'General Theory of Employment, Interest and Money' [and dealing with] the basic issues of Keynesian theory . . . theories of the trade cycle, and . . . the theory of economic growth"; the second dealing with "that general field of economic theory which is traditionally known as the 'theory of value and distribution.' "

Gunnar Myrdal. Beyond the Welfare State: Economic Planning and Its International Implications. Yale University Press, 1960. 287 pp. $4.50. "It is [the author's] belief that today's world problems are, in large part, due to nationalistic sentiments in individual countries and to the present lack of real solidarity between peoples outside national boundaries. . . . The solution of these problems depends upon a more enlightened citizenry expressing their basic 'international idealism' unobstructed by narrow national considerations."

Clarence Senior.° Strangers—Then Neighbors: from Pilgrims to Puerto Ricans. Freedom Books (Anti-Defamation League of B'nai B'rith), 1961. 88 pp., paper. 95 cents. "Generally we [Americans] are . . . a friendly, neighborly, hospitable people. But—some of us have always been suspicious or afraid of newcomers. Now some of us are reacting with suspicion and fear again. Others of us are simply annoyed and irritated by a new stream of strangers . . . our fellow citizens from Puerto Rico. We want [in this book] to examine what is happening to them, and . . . to the rest of us . . . against the background of what happened to millions of other strangers who came before them."

Andrew Shonfield. The Attack on World Poverty. Random House, 1960. 269 pp. $5.00. "What part can the International organizations, the World Bank and the other United Nations agencies, play in accelerating the advance [against poverty] during the 1960's? In spite of the success of the World Bank in the 1950's, Mr. Shonfield concludes from an extended study of its past performance that if the Bank sticks to its present techniques, it will not work as effectively during the 1960's. And the same holds for the smaller agencies of the United Nations. A radical reform is required in the way they carry out their tasks, if the hopes the world has resided in them are not to be disappointed. Mr. Shonfield's practical proposals will certainly be the subject of debate whenever aid to underdeveloped countries is discussed. . . . An exciting, hopeful, and thorough study." The author is economics editor of the London *Observer*.

Gordon Sjoberg. The Preindustrial City: Past and Present. Free Press, Glencoe, Illinois, 1960. 352 pp. $6.75. "This is the first major book to provide a comprehensive survey of the preindustrial city, and to stress the fact that cities of the past are strikingly similar to those in contemporary non-industrial societies. This study brings to our awareness preindustrial-urban social forms as a crucial guide-line against which the revolutionary changes now under way can and should be measured. . . . The author has achieved an outstanding contribution to urban sociology, and has added an important dimension to our understanding of cities." Dr. Sjoberg is associate professor at the University of Texas.

Joseph E. Stepanek.° Managers for Small Industry: an International Study. Free Press, Glencoe, Illinois, 1960. 245 pp. $6.00. From the Introduction by V. T. Krishnamachari, India Planning Commission: "Dr. Stepanek's book breaks new ground and is a notable contribution to the thinking on a subject which is of great importance in underdeveloped countries. . . . He analyzes the sources from which small industry enterpreneurs are drawn . . . and also the special problems of such managers . . . and attempts to answer the central question—how can we train effectively the huge number of managers needed to lead the industrial revolution in underdeveloped countries? Dr. Stepanek has had firsthand experience in . . . the United States . . . China, Indonesia, Burma, and India." The author is senior industries specialist with the Stanford Research Institute's International Industrial Development Center.

Republic of the Sudan. Institute of Public Administration: Background, Organization, Purposes, Programme. Dec. 1960. 23 pp. paper, processed. "The Institute of Public Administration was established in 1960 in order to fill the need for the training of administrative and clerical officers in the public service in Sudan. . . . The United Nations was invited to undertake a survey . . . and make recommendations . . . [Subsequently] the Council of Ministers in March 1960 . . . established the Institute as a permanent institution with relative autonomy." This report is concerned with its program and activities.

Phillips Talbot,° ed. A select Bibliography—Asia, Africa, Eastern Europe, Latin America. American Universities Field Staff, New York, 1960. 534 pp. $4.75. "The many scholars who shared in the preparation of this bibilography have listed what they regard as the most useful books and journals available for college study and general reading about the civilizations of Asia, Africa, Europe and Latin America. . . . As their recommendation for a basic collection . . . the compilers have chosen nearly 6000 titles of books and journals in Western languages, preponderantly English. . . . Alongside certain entries there appears an A or a B. These letters indicate the compilers' judgment of the *first* and *second* priorities for readers and purchasers whose interests do not extend to the entire list. . . . All the A . . . and B titles . . . carry annotations." Indexed by authors and titles.

Robert Theobald.° The Rich and the Poor: a Study of the Economics of Rising Expectations. Clarkson N. Potter, 1961. 196 pp. $4.50. From the author's preface: "My argument could not have been based on the neoclassical economic framework, for it is generally agreed that this does not reflect present world conditions, and that its static assumptions are inappropriate when worldwide economic growth is taking place. The theory lives on, however, despite continuous challenges, and it has demonstrated its continuing vitality by absorbing Keynesian theory to form what is often called a Keynesian-neoclassical-synthesis. The whole argument of this book challenges its validity, showing that policies based on its assumptions will often aggravate rather than cure present problems. . . . The insights of Weber and Tawney . . . showed that it was the attitude of the population to work and leisure, consumption and saving that determines the rate of growth. This idea was further developed by Walt Rostow. . . . It also underlines the close connection between economics and anthropology, a discipline that has always insisted that different societies will value varied ways of life."

Robert Triffin. Gold and the Dollar Crisis. Yale University Press, 1960. 194 pp. $5.00. "Triffin's views, first propounded at the conference of the International Economic Association in September 1959, have . . . elicited a lively controversy. Resisted by some as 'too much and too soon', they have been enthusiastically supported by all those who fear that the main risk is that we shall do 'too little and too late.' " From the *New York Times:* "There are various proposals for changes in the system, ranging from mild to radical. The one being talked about most has been made by Professor Robert Triffin of Yale University."

P. Lamartine Yates. Food, Land and Manpower in Western Europe. MacMillan & Co., London, 1960. 249 pp. 35 shillings. (St. Martin's Press, New York, $7.00). "This book constitutes the first of a series of four monographs on European problems being prepared as part of a major study of the economic resources and requirements of Western Europe by the Twentieth Century Fund. . . . The contribution that the farm economy . . . could make to general economic expansion is the central theme of [Mr. Yates'] study of the region's food supply and agricultural problems. . . . Manpower is . . . scarce in industry. European agriculture has excess manpower; it could produce as much food or more with half its present labor force. [Mr. Yates discusses] how this maladjustment has come about and how governments might recast their agricultural policies to meet the new situation."

BIOGRAPHS

EDITOR'S NOTE: The *Review* attempts to obtain biographical notes and portraits for all authors and SID officers whose names appear for the first time in the current issue. Omission of a biograph or portrait means that the editor did not receive the necessary material or did not receive it in time. Biographs that have appeared in earlier issues will be referred to but not repeated in the current issue. SID members are indicated by a small circle supra °.

E. Gordon Alderfer.° For a biographical note, see Vol. II No. 1, May 1960.

Gordon B. Cartwright has since 1958 been chief officer in charge of international meteorological plans in the U.S. Weather Bureau, stationed in Washington. In 1956-58 he represented the U.S. National Committee for the International Geophysical Year as liaison scientist with the second Soviet Antarctic expedition, based at Mirny, Antarctica. Previously, in 1954-56 he was chief of the Weather Bureau's Observations and Stations Division, in Washington; 1952-54, chief of Weather Bureau activities in the Pacific, with headquarters in Hawaii; 1946-52, technical officer with the International Civil Aviation Organization in Montreal, participating in air navigation conferences and other technical activities. Born in New Castle, Pennsylvania, in August 1909, Mr. Cartwright joined the Weather Bureau in 1929 in Pittsburgh and subsequently covered various assignments, including forecasting for early transatlantic flights at La Guardia airport, before coming to Washington early in World War II. (Vol. III. No. I)

Max E. Hodge has been a member of the U. S. Foreign Service since 1950, serving in Dacca 1957-60, Salonika 1953-57, Frankfurt 1951-53, and on the Board of Examiners 1950-51. Previously he had been a Russian translator in the U. S. Library of Congress (1949-50) and a radio officer in the U. S. Merchant Marine (1943-46). Born in New Haven, Connecticut, in August 1925, Mr. Hodge attended Antioch College, Oberlin. (B.A. cum laude, political science 1949), the (John Hopkins) School for Advanced International Studies (M.A., international economics 1950). He is fluent in French, German, and Greek and has working knowledge of Italian, Russian, and Bengali. (Vol. III No. 1)

Lucyle Hook. A biographical note about Dr. Hook is included in the Editor's note accompanying her article in this issue.

Leslie Tse-chiu Kuoo is Chief, Oriental Project, United States Department of Agriculture Library. Born in 1914 in Foochow, China, he received his M.A. (1938) and Ph.D. (1941) degrees in agricultural economics at Cornell, and then continued graduate study at Cornell for the degree of Master in Regional and City Planning (1943). He is believed to be the first employee on the payroll of any United Nations agency, joining the United Nations Interim Commission on Food and Agriculture in Washington as Assistant Secretary on August 18, 1943. In the Food and Agriculture Organization (1945-54) he served successively as information officer, assistant to the director of the Agriculture Division, and agricultural consultant. Since 1954, he has carried out assignments for the Council on Economic and Cultural Affairs and other institutions. As chief of the Oriental Project, which is financed by the National Science Foundation, one of his present principal duties is to appraise Chinese, Japanese, and Korean publications in the agricultural and biological sciences in the USDA Library and make recommendations on acquisition policy. He has written many articles and bulletins in English and Chinese, the most recent being an 80,000-word manuscript on "Peking: the Capital Mao Rebuilt," a study of the physical transformation of an ancient Chinese city under communism, 1949-1960; a bibliography, *Communist Chinese Periodicals in the Agricultural Sciences,* published by the USDA Library; and the paper on agricultural sciences in Communist China (prepared in collaboration with Ralph W. Phillips) presented at the 1960 annual meeting of the American Association for the Advancement of Science and summarized in this issue of the *Review.* (Vol. III No. 1)

Shu Yen Lino was born in Hainan, China, in 1903 and graduated from Yenching University, Peking, in 1927. After teaching biology and chemistry at Lingnan University Middle School and at Sun Yat-sen University in Canton from 1927 to 1929, he joined the staff of the Kwangtung Fisheries Experiment Station and later the Chekiang Fisheries Experiment Station, devoting his time as a fisheries biologist and ichthyologist to the study of the history of the Chinese domesticated fishes and the search for scientific bases for the centuries-old practice of fish culture. He also specialized in the fish-fry industry and the biology of inland and sea fisheries. When he was forced to flee to Hong


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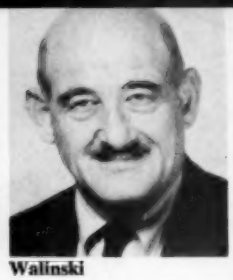
Walinski

Kong in 1938 by the Sino-Japanese War, he was appointed Superintendent of Fisheries Research at the Hong Kong Fisheries Research Station. Here his work resulted in the establishment of the Hong Kong Fish Marketing Scheme in 1945. The mechanization of a fleet of 5,000 fishing vessels and the improvement of pond culture practice in the Crown Colony was also due in great part to his efforts and knowledge. In 1949 Mr. Lin joined the staff of the Food and Agriculture Organization of the United Nations. After working for a year in Washington he was then sent by FAO to the Caribbean, where he acted as an adviser on inland fisheries and fish culture to the governments of Haiti and the Dominican Republic. In 1954 he was transferred to Central America, where he has since been a consultant to the governments of Honduras, El Salvador, Guatemala, and Nicaragua on similar projects.

Ralph W. Phillips.° For a biographical note, see Vol I, No. 1, October 1959.

Paul R. Porter° is president of Porter International Company, which serves manufacturer clients establishing manufacturing operations in other countries. The company operates in 30 countries, and clients include manufacturers in capital-importing as well as capital-exporting nations, though mainly the latter. Before founding the company in 1953, he had been European regional administrator of the Marshall Plan, assistant administrator of the Economic Cooperation Administration, and chief of the U. S. resident delegation to the UN Economic Commission for Europe. He has also served as the U. S. representative to the Organization for European Economic Cooperation and as the U. S. member of the European Coal Organization. Mr. Porter is a frequent speaker at conferences of the American Management Association on International business operations. (Vol. III No. 1)

Andrew E. Rice° is currently serving as a research associate of the Colorado State University Research Foundation in its study of the proposed youth Peace Corps and likewise completing a Ph.D. dissertation at Syracuse University dealing with public support for U. S. development assistance activities. Until recently he was for eight years editor of *Doorway to the Twentieth Century*, a news sheet on international development. He has served as executive assistant to Dean Harlan Cleveland of Syracuse University's Maxwell School (1959-60), aide to Congressman Henry S. Reuss and to Senator William Proxmire (1956-58), and national executive director of the American Veterans Committee (1953-55). Mr. Rice was a founding member of SID. (Vol. III No. 1)

Robert A. Solo has been working as an economic consultant with the Economic Development Administration in Puerto Rico since 1959 and has authored a plan recently proposed by Teodoro Moscoso for a new agency, the Science and Research Council, and a program designed to develop Puerto Rico as a world center for industrial research and development. Previously he had taught at Rutgers University, McGill University, the College of the City of New York, and the University of Michigan, and prior to U. S. Navy service beginning in 1941 had served as economic advisor to the American executive secretary of the Combined Raw Materials Board. He has published "La Valle des Ombres" (a novel, with Georges Agadjanian) 1946, "Economics and the Public Interest" (a symposium) 1955, "Synthetic Rubber: a Case Study in Technological Development under Government Direction" 1959, and "Essai sur Amerique" 1960, as well as numerous articles in professional journals, and has also written a number of television documentaries. Born in Philadelphia in 1916, Dr. Solo is a graduate of Harvard and did postgraduate work at American University, the London School of Economics, and Cornell University (Ph.D.). (Vol. II No. 1).

Robert Theobald,° author of "The Challenge of Abundance" and "The Rich and the Poor: a Study of the Economics of Rising Expectations," is a consulting economist in New York whose recently completed assignments include a manual for the American Management Association on the prospect for U. S. private investment abroad (particularly in the underdeveloped countries) and studies for the General Electric Company on economic growth and international trade. Before coming to New York he had worked for the Organization for European Economic Cooperation. He holds an M.A. degree in economics from Cambridge University, England, and did postgraduate work at the School of Public Administration, Harvard. In SID, he is currently serving as program chairman of the New York Chapter. (Vol. III No. 1)

Louis J. Walinski° is currently director of a Twentieth Century Fund study of economic development in Burma and is preparing a book on that subject. From 1949 to 1953 he was senior associate and from 1953 to 1959 chief economist in Robert R. Nathan Associates, serving in Burma throughout most of the latter period. Previously he had been financial director and director of the German-Austria operations of the World ORT Union (1947-49); director of the Office of Economic Review and Analysis, U. S. Civilian Production Administration; economic consultant in the War Production Board, Combined Raw Materials Board, and Civilian Production Administration, 1943-46; and instructor in New York, N. Y., high schools 1930-43. He has also participated in economic consulting missions to Korea and Iran, served as guest lecturer at Cornell and Vanderbilt Universities, was the author of a U. S. Senate document on "The Future of Domestic Airline Passenger Travel," contributed to a comprehensive report on the economic and engineering development of Burma, and has conducted economic studies in a variety of other fields. Born in London, England, in 1908, Mr. Walinski holds a B.A. degree from Cornell (1929) and did postgraduate work at the New School for Social Research in New York. (Vol. III No. 1)

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